AGENDA

FLOWER MOUND TOWN COUNCIL REGULAR MEETING; AND CRIME CONTROL AND PREVENTION DISTRICT SPECIAL MEETING

1/4/2021

FLOWER MOUND TOWN HALL, 2121 CROSS TIMBERS ROAD
FLOWER MOUND, TEXAS

6:00 P.M.

****

An agenda information packet is available online at www.flower-mound.com/AgendaCenter

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Please silence or turn off all electronic devices in Jody Smith Hall

A. CALL MEETING TO ORDER

B. INVOCATION

C. PLEDGE OF ALLEGIANCE TO THE AMERICAN FLAG AND TO THE TEXAS FLAG

"Honor the Texas flag; I pledge allegiance to thee, Texas, one state under God, one and indivisible."

D. PUBLIC COMMENT

To speak to Council during public comment, please fill out a comment form.

- **Speakers are limited to 3 minutes, a tone will sound at 30 seconds left and when time has expired**
- **Please state your name and address when speaking**

The purpose of this item is to allow the public an opportunity to address the Town Council on issues that are not indicated as a "Public Hearing" on this agenda. Issues regarding daily operational or administrative matters should first be dealt with by calling Town Hall at 972.874.6000 during business hours.

E. ANNOUNCEMENTS

1. 2020 Outstanding Citizen Award Recognition
2. Announce recent and upcoming civic and social events

F. TOWN MANAGER'S REPORT

Update and discussion on:

1. Capital improvement projects
2. Economic Development projects
3. Covid Vaccine
4. All Together Flower Mound

G. FUTURE AGENDA ITEMS

The purpose of this item is to allow the Mayor and members of Council an opportunity to bring forward items they wish to discuss at a future meeting, with the understanding a consensus of Council is needed in order for that item to be placed on a future agenda and in accordance with the Town Council Agenda Setting Policy (Ord. 65-15).

H. COORDINATION OF CALENDARS

1. Discuss and consider a work session for Thursday, January 14.
2. A special meeting is scheduled for Thursday, January 21.
3. A regular meeting is scheduled for Monday, February 1.

I. CONSENT ITEMS

This part of the agenda consists of non-controversial or "housekeeping" items required by law. Items may be removed from Consent by any Councilmember by making such request prior to a motion and vote.

1. Minutes 12/7- Consider approval of the minutes from a regular meeting of the Town Council held on December 7, 2020.
2. Municipal Judge- Consider approval of an ordinance to reappoint Municipal Judge Jeff Tasker for the period of January 1, 2021, through December 31, 2022.
3. CoServ Rate Case Suspension- Consider approval of a resolution suspending the January 23, 2021, effective date of CoServ Gas Ltd.'s requested rate increase in order for the Town to study the request with other cities in the service area.
4. 1st Crime District Budget Amendment- Town Council acting as the Board of Directors for the Town of Flower Mound Crime Control and Prevention District to consider approval of a resolution amending the Town of Flower Mound Crime Control and Prevention District budget for the fiscal year beginning on October 1, 2020, and ending on September 30, 2021, as adopted by Resolution No. 19-20.
5. FM1171 UPRR Quiet Zone Agreement- Consider approval of a Reimbursement Agreement for Quiet Zone Services by the Union Pacific Railroad (UPRR) at the FM 1171/UPRR crossing for an estimated $20,000.00; and authorization for the Mayor to execute same on behalf of the Town.
6. Lift Station Improvements Design Award- Consider approval of a Professional Services Agreement for the design phase services for the Lift Station Improvements and Decommissioning Phase III project, with Plummer, Inc., for $48,700.00; and authorization for the Mayor to execute same on behalf of the Town.
7. Engine 502 repair- Consider approval to ratify the expenditure of additional costs for parts and labor on Engine 502/Fleet #63000-05.
8. Oak Street Lift Station - Design Award- Consider approval of a Professional Services Agreement for the design phase services for the Oak Street Lift Station and Force Main Phase IV project, with Kimley-Horn and Associates, Inc., for $330,500.00; and authorization for the Mayor to execute same on behalf of the Town.
9. Park Naming- Consider approval of naming the 1.1 acre public park located within the Tinley Park residential development as Blue Blossom Preserve.
10. LISD Fees Ordinance- Consider approval of an ordinance of the Town Council of the Town of Flower Mound, Texas, amending Appendix A "Fee Schedule," of the Code of Ordinances, Town of Flower Mound, Texas: establishing the fee for lease of Town facilities to Lewisville Independent School District, per a Facility Use Agreement; providing this ordinance shall be cumulative of all ordinances; providing a severability clause; and providing an effective date.

11. TIRZ 2020 Annual Report- Consider approval of the 2020 Annual Report for the Flower Mound Tax Increment Reinvestment Zone #1 (TIRZ #1) in accordance with Chapter 311 of the Texas Tax Code (The TIRZ #1 Board approved by a vote of 3 to 0 at it's December 17, 2020, meeting)

J. REGULAR ITEMS

12. ZPD20-0005 - Niagara Conservation- Public Hearing to consider an ordinance amending the zoning (ZPD20-0005 - Niagara Conservation) from an Agricultural (A) Zoning district to Planned Development District No.179 (PD-179) with Campus Industrial uses, with certain waivers, exceptions and modifications to the Code of Ordinances. The property is generally located north of Enterprise Road and east of Old Gerault Road. (The Planning and Zoning Commission recommended approval of the rezoning request and denial of the exception request to Section 82-376 of the Town Code that requires overhead utilities to be placed underground, by a vote of 6 to 0 at its November 9, 2020, meeting.) (The Town Council moved to postpone this item by a vote of 4 to 1 at its December 7, 2020, meeting.)

Applicant requests to postpone items 12 – 15 to Feb. 1

13. TRP20-0021 - Niagara Conservation- Public Hearing to consider an application for a tree removal permit for twenty-five (25) specimen trees on property proposed for development as Niagara Conservation. The property is generally located north of Enterprise Road and east of Old Gerault Road. (The Environmental Conservation Commission recommended approval by a vote of 4-3-0 at its November 4, 2020, meeting. The Town Council moved to postpone this item by a vote of 4 to 1 at its December 7, 2020, meeting.)

14. Reinvestment Zone-300 Old Gerault Rd.- Public Hearing to consider approval of an ordinance establishing a Tax Abatement Reinvestment Zone for commercial tax abatement at 300 Old Gerault Road (Niagara Conservation, Inc., aka Deus, LLC). (The Town Council moved to postpone this item by a vote of 4 to 1 at its December 7, 2020, meeting.)

15. Niagara Conserv. Ch 380 & Tax Abatement- Public Hearing to consider approval of a Chapter 380 and Tax Abatement Agreement with Niagara Conservation, Inc. (aka Deus, LLC), for the economic development of Flower Mound, and authorization for the Mayor to execute same on behalf of Town. (The Town Council moved to postpone this item by a vote of 4 to 1 at its December 7, 2020, meeting.)

16. Land Use Assumptions & Impact Fee Update- **Public Hearing** to consider the approval of an ordinance adopting updated land use assumptions and updated capital improvements plans, and to update and amend certain provisions of Chapter 42, “Impact Fees,” regarding the imposition of impact fees and amending Appendix A, “Fee Schedule”, accordingly. (The CIAC recommended approval by a vote of 9 to 0 at its November 9, 2020, meeting.)(This item was postponed to January 4, 2021 at the December 7, 2020 Town Council meeting)

17. Morriss Road Water Line Ph2 Construction- Consider approval of a Construction Agreement with Excel Aircraft LLC, dba Excel Trenching, for the Morriss Road Water Lines Phase II (FM 1171 to Eaton) project, in the amount of $2,249,151.00; and authorization for the Mayor to execute same on behalf of the Town.

18. SP20-0013 Argyle ISD Admin Building- Consider a request for a Site Plan (SP20-0013 – Argyle ISD Administration Building) to develop a school administration building with an exception to Section IV, Storm Water Improvements, regarding use of an open channel storm sewer, contained in the Town's Engineering Design Criteria and Construction Standards adopted through Chapter 32 of the Code of Ordinances. The property is generally located east of Canyon Falls Drive and north of Denton Creek Boulevard. (The Planning and Zoning Commission recommended approval by a vote of 6 to 0 at its December 14, 2020, meeting.)

K. BOARDS/COMMISSIONS

Pre-Council Room

Discuss and consider resignations, appointments, evaluations, reassignments, discipline, or dismissals for the following boards or commissions: Animal Services Board, Cultural Arts Commission, Environmental Conservation Commission, LISD Liaison, Parks Board, SMARTGrowth Commission, Tax Increment Reinvestment Zone Number One (TIRZ #1), Transportation Commission, and Veterans Liaison.

19. Discuss and consider appointment of Chair to the Tax Increment Reinvestment Zone (TIRZ) Number 1.
20. Consider approval of a resolution expanding the Veterans Liaison position, including member appointments.
21. Consider approval of a resolution to create the School Liaison Committee, including member appointments.

L. CLOSED MEETING

The Town Council to convene into closed meeting pursuant to Texas Government Code Chapter 551, including, but not limited to, Sections 551.071, 551.072, 551.074, and 551.087 for consultation with attorney, and to discuss matters relating to real property, personnel, and economic development negotiations, as follows:

a. Discuss and consider resignations, appointments, or evaluations for the following boards or commissions: Board of Adjustment/Oil & Gas Board of Appeals, Community Development Corporation, and Planning and Zoning Commission.

b. Consultation with Attorney.

Pursuant to Section 551.071 of the Texas Government Code, the Town Council reserves the right to consult in a closed meeting with its attorney and to receive legal advice regarding any item listed on this agenda.

c. Discuss and consider purchase, exchange, lease or value of real property for parks, public rights-of-way, cultural arts center, and/or other municipal purposes and all matters incident and related thereto.

d. Discuss and consider economic development incentives, including retail centers, corporate relocation/expansion/retention, senior housing, hospitality projects, and performance related to certain incentive agreements.

e. Discuss and consider the recruitment process for the Town Manager, and all matters incident and related thereto.

M. RECONVENE TO REGULAR MEETING

The Town Council to reconvene into an open meeting to take any action deemed necessary as a result of the closed meeting.

N. ADJOURN MEETING

I do hereby certify that the Notice of Meeting was posted on the bulletin board at the Town Hall for the Town of Flower Mound, Texas, in a place convenient and readily accessible to the general public at all times and said Notice was also posted on the Town's website in accordance with GC Section 551.056 on the following date and time: December 31, 2020, at 1:15 p.m., at least 72 hours prior to the scheduled time of said meeting.

Theresa Scott, Town Secretary

The Flower Mound Town Hall and Jody Smith Hall are wheelchair accessible. Requests for accommodations or interpretive services must be made 48 hours prior to this meeting by contacting Theresa Scott, Town Secretary, at 972.874.6076.

TOWN COUNCIL AGENDA ITEM NO. 1

CONSENT ITEM

DATE: January 4, 2021

FROM: Theresa Scott, Town Secretary

ITEM: **Consider approval of the minutes from a regular meeting of the Town Council held on December 7, 2020.**

BACKGROUND INFORMATION: The Town Council held a regular meeting on November 16, 2020, and a work session on December 7, 2020.

BOARD REVIEW/CITIZEN FEEDBACK: N/A

ALTERNATIVES/OPTIONS: N/A

FISCAL IMPACT: N/A

Proposed Expenditure/(Revenue):	Account Number(s):

Finance Review by: N/A

LEGAL REVIEW: N/A

ATTACHMENTS:

1. Draft minutes 12.7

DRAFT MOTION: Move to approve as presented in the agenda caption.

THE FLOWER MOUND TOWN COUNCIL REGULAR MEETING HELD ON THE 7TH DAY OF DECEMBER 2020, VIA VIDEO CONFERENCE, AT 6:00 P.M.

Click here for meeting video link (subject to change)

The Town Council met in a regular meeting with the following members present:

Steve Dixon	Mayor
Jim Engel	Mayor Pro Tem
Ben Bumgarner	Deputy Mayor Pro Tem
Jim Pierson	Councilmember Place 1
Sandeep Sharma	Councilmember Place 2
Ann Martin	Councilmember Place 5

constituting a quorum with the following members of the Town Staff participating:

Theresa Scott	Town Secretary
Bryn Meredith	Town Attorney
Debra Wallace	Interim & Deputy Town Manager/CFO
Tommy Dalton	Assistant Town Manager
Lexin Murphy	Director of Planning Services
Tiffany Bruce	Executive Director of Public Works
Brian Waltenburg	Assistant Director of Engineering

A. CALL REGULAR MEETING TO ORDER

Mayor Dixon called the regular meeting to order at 6:00 p.m.

B. INVOCATION

Mayor Dixon gave the invocation.

D. GENERAL PUBLIC COMMENT

Names listed below don't necessarily reflect the order in which each person spoke and all addresses are located in Flower Mound unless otherwise indicated.

	Speaker names and address	Subject *(as written on the form)*
1.	John Hawkins, address not provided	Land Development Options - Provisions to Ord. 64-13

E. ANNOUNCEMENTS

Mayor Pro Tem Engel offered congratulations to the Flower Mound Girls Volleyball team for winning the regional finals.

Councilmember Sharma announced that the Flower Mound Lions Club is gathering pet supplies for needy families, as well as toiletries for Christian Community Action family care packs.

Councilmember Martin announced that today is the 79th Anniversary of the Pearl Harbor attack and pointed out ways that the Town can honor our Veterans.

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Mayor Dixon offered kudos to staff for the annual Christmas tree lighting at the Community Activity Center.

F. TOWN MANAGER'S REPORT

Ms. Wallace provided an update on the following projects

1. Capital improvement projects:
   - Hound Mound parking lot and rest room
   - FM 2499 and Chaparral traffic light

2. Economic Development projects:
   - New or coming soon businesses

G. FUTURE AGENDA ITEMS

1. Mayor Pro Tem Engel requested the following agenda items:
   - Request for a progress report on the Riverwalk
   - Create an ordinance that if a building permit expires and the site is abandoned, the site needs to be returned to a natural state
   - For the Lakeside Business District, interest in having a future discussion regarding limited residential, as well as what types of projects the Town Council wants to see for that area and promote that message with the development community

   Mayor Dixon was acceptable to having a future agenda on a Riverwalk update and there was Council consensus to proceed with a future agenda item on the additional two topics.

2. Councilmember Sharma requested a future agenda item to discuss board and commission appointments.

   Mayor Dixon indicated he believed everyone was acceptable to having an agenda item on the topic to make sure everyone is on the same page.

H. COORDINATION OF CALENDARS

A work session is scheduled for Thursday, December 17.

Mr. Dalton provided background information regarding the proposed Furst Ranch Development and indicated that the applicant is interested in getting feedback and direction from the Town Council on the project.

There was Council consensus to proceed with a December 17th work session for this purpose.

Mayor Dixon announced that the next regular meeting is scheduled for Monday, January 4.

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I. CONSENT ITEMS

1. Consider approval of the minutes from a regular meeting of the Town Council held on November 16, 2020, and approval of the minutes from a work session held on November 19, 2020.
2. Consider approval of a contract with Blue Cross and Blue Shield in the amount of $848,333.28 for reinsurance for the Town's Group Health Plan and authorization for the Mayor to execute same on behalf of the Town.
3. Consider approval of the award of RFP No. 2021-3-A for Employee Basic Life Insurance & Accidental Death Insurance, Long Term Disability Insurance, Employee and Dependent Optional Life and Accidental Death Insurance to CIGNA Group Insurance in the estimated amount of $107,485.74 and authorization for the Mayor to execute same on behalf of the Town.
4. Consider approval of a resolution authorizing the adoption of the Program Year 2019 Consolidated Annual Performance & Evaluation Report for the Community Development Block Grant; and authorization for the Mayor to execute same on behalf of the Town and submit to the U.S. Department of Housing and Urban Development.

RESOLUTION NO. 24-20

A RESOLUTION OF THE TOWN COUNCIL OF THE TOWN OF FLOWER MOUND, TEXAS, PROVIDING FOR THE ADOPTION OF FLOWER MOUND'S PROGRAM YEAR 2019 CONSOLIDATED ANNUAL PERFORMANCE AND EVALUATION REPORT UNDER THE COMMUNITY DEVELOPMENT BLOCK GRANT PROGRAM; PROVIDING AUTHORIZATION FOR THE MAYOR TO EXECUTE SAID REPORT; AND PROVIDING AN EFFECTIVE DATE.

5. Consider approval of an ordinance amending the Town of Flower Mound's Annual Budget for the fiscal year beginning October 1, 2019, and ending on September 30, 2020, as adopted by Ordinance No. 50-19 and amended by Ordinance No. 64-19, No. 04-20 and No. 23-20 for adjustments to the General Fund, General Debt Service Fund and Grants Fund.

ORDINANCE NO. 36-20

AN ORDINANCE OF THE TOWN COUNCIL OF THE TOWN OF FLOWER MOUND, TEXAS, AMENDING THE TOWN'S BUDGET FOR THE FISCAL YEAR BEGINNING ON OCTOBER 1, 2019, AND ENDING ON SEPTEMBER 30, 2020, AS ADOPTED BY ORDINANCE NO. 50-19 AND AMENDED BY ORDIANACE NO. 64-19, NO. 04-20 and NO. 23-20, BY PROVIDING FOR ADJUSTMENTS TO THE GENERAL FUND, GENERAL DEBT SERVICE FUND AND GRANTS FUND; PROVIDING THAT EXPENDITURES FOR SAID FISCAL YEAR SHALL BE MADE IN ACCORDANCE WITH SAID BUDGET, AS AMENDED; REPEALING ALL CONFLICTING ORDINANCES; PROVIDING A SEVERABILITY CLAUSE; AND PROVIDING AN EFFECTIVE DATE.

6. Consider approval of an ordinance amending the Town of Flower Mound's Annual Budget for the fiscal year beginning October 1, 2020, and ending on September 30,

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2021, as adopted by Ordinance No. 27-20 for adjustments to the General Fund, Utility Fund, Tree Preservation Fund, Flower Mound Log Cabin Fund, IRS Equitable Sharing Fund, Grants Fund, Neighborhood Improvement Fund and Vehicle & Equipment Replacement Fund.

ORDINANCE NO. 37-20

AN ORDINANCE OF THE TOWN COUNCIL OF THE TOWN OF FLOWER MOUND, TEXAS, AMENDING THE TOWN'S BUDGET FOR THE FISCAL YEAR BEGINNING ON OCTOBER 1, 2020, AND ENDING ON SEPTEMBER 30, 2021, AS ADOPTED BY ORDINANCE NO. 27-20, BY PROVIDING FOR ADJUSTMENTS TO THE GENERAL FUND, UTILITY FUND, TREE PRESERVATION FUND, FLOWER MOUND LOG CABIN FUND, IRS EQUITABLE SHARING FUND, GRANTS FUND, NEIGHBORHOOD IMPROVEMENT FUND, AND VEHICLE AND EQUIPMENT REPLACEMENT FUND; PROVIDING THAT EXPENDITURES FOR SAID FISCAL YEAR SHALL BE MADE IN ACCORDANCE WITH SAID BUDGET, AS AMENDED; REPEALING ALL CONFLICTING ORDINANCES; PROVIDING A SEVERABILITY CLAUSE; AND PROVIDING AN EFFECTIVE DATE.

7. *Item #7 was moved from Consent to Regular.*

8. Consider approval of a resolution accepting grant funds from the Department of Justice's Office of Justice Programs for the purchase of bulletproof vests for the Police Department as part of the FY 2020 Bulletproof Vest Partnership.

RESOLUTION NO. 25-20

A RESOLUTION OF THE TOWN COUNCIL OF THE TOWN OF FLOWER MOUND, TEXAS AUTHORIZING THE ACCEPTANCE OF GRANT FUNDS FROM THE DEPARTMENT OF JUSTICE'S OFFICE OF JUSTICE PROGRAMS FOR THE FISCAL YEAR 2020 BULLETPROOF VEST PARTNERSHIP PROGRAM; APPROVING THE PURCHASE OF BULLETPROOF VESTS FOR THE TOWN USING AWARDED GRANT FUNDS; PLEDGING THAT THE TOWN OF FLOWER MOUND WILL COMPLY WITH ALL PROGRAM REQUIREMENTS OF THE BULLETPROOF VEST PARTNERSHIP PROGRAM.

9. Consider approval of an Interlocal Cooperation Agreement with Denton County for the provision of fire protection services for the benefit of the citizens of Flower Mound and Denton County, and authorization for the Mayor to execute same on behalf of the Town.

10. Consider approval of an Interlocal Cooperation Agreement with Denton County for the provision of ambulance services for the benefit of the citizens of Flower Mound and Denton County, and authorization for the Mayor to execute same on behalf of the Town.

11. Consider approval of an ordinance for a street name change for the cul-de-sac immediately south of Cross Timbers Rd (FM 1171) and west of Pocahontas to Navajo Bluffs Court (9100 – 9200 block) (The Transportation Commission recommended to change the street name by a vote of 6 to 0 at its November 10, 2020, meeting)

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ORDINANCE NO. 38-20

AN ORDINANCE OF THE TOWN COUNCIL OF THE TOWN OF FLOWER MOUND, TEXAS, AUTHORIZING A STREET NAME CHANGE OF THE UNNAMED CUL-DE-SAC IMMEDIATEDLY SOUTH OF CROSS TIMBERS ROAD (FM 1171) AND WEST OF POCAHONTAS (PREVIOUSLY KNOWN AS THE 9100-9200 BLOCK OF CROSS TIMBERS ROAD) TO "NAVAJO BLUFFS COURT"; PROVIDING THAT THIS ORDINANCE SHALL BE CUMULATIVE OF ALL ORDINANCES; PROVIDING A SEVERABILITY CLAUSE; PROVIDING FOR PUBLICATION; AND PROVIDING AN EFFECTIVE DATE.

12. Consider approval of Change Order No. 1 for the High Road Water Line Replacement Phase III project, amending the contract with Muniz Construction, Inc., in the amount of $28,400.00; and authorization for the Mayor to execute same on behalf of the Town.
13. Consider approval of Change Order No. 2 for the construction of the FM2499 12-Inch Water Line Phase I (Dixon to South of FM1171) project, amending the contract with GRod Construction, LLC, to provide for an increase to the contract in the amount of $36,230.00; and authorization for the Mayor to execute same on behalf of the Town.
14. Consider approval of Change Order No. 2 to the construction agreement with Archer Western Construction, LLC, for the Wastewater Treatment Plant Rehabilitation Phase V, Solids Facility Improvements project, in the amount of $53,826.88; and authorization for the Mayor to execute same on behalf of the Town.
15. Consider approval of Change Order No. 3 for the construction of the Kirkpatrick Lane 12-Inch Water Line Phase II project, amending the contract with A&M Construction and Utilities, Inc., to provide for an increase to the contract in the amount of $54,417.00; and authorization for the Mayor to execute same on behalf of the Town.
16. Consider approval of First Amendment to Professional Services Agreement for the East Waketon Road Drainage Improvements project, amending the agreement with Halff Associates, Inc. for an increase of $55,000.00, and authorization for the Mayor to execute same on behalf of the Town.
17. Consider approval of the purchase and installation of Life Floor splash pad safety surfacing by Inside Edge CIS LLC, for the Heritage Park Improvements project, in the amount of $64,984.53.
18. Consider approval of a Professional Services Agreement with Alliance Geotechnical Group, Inc., to provide testing services in the amount of $44,206.50 for the Canyon Falls Park project.
19. Consider approval of a Professional Services Agreement with Pacheco Koch Consulting Engineers, Inc., for the work associated with the Engineering Standards and Details Update project, in the amount of $170,990.00; and authorization for the Mayor to execute same on behalf of the Town.
20. Consider approval of an increase to the annual purchase contract for flex base material from Big City Crushed Concrete, through a City of Lewisville contract (19-27-A) from an estimated total of $30,000.00 to an estimated total of $50,000.00.

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21. Consider approval of a resolution to approve an Advance Funding Agreement, for Voluntary Local Government Contributions to Landscape Improvement Projects, with the Texas Department of Transportation (TxDOT) to pay for work associated with the construction of landscaping activities to include planting and irrigation along FM 1171 from Long Prairie Road to North Garden Ridge Boulevard within the limits of the Town of Flower Mound, in the amount of $90,000.00; and authorization for the Mayor to execute the same on behalf of the Town.

RESOLUTION NO. 26-20

A RESOLUTION OF THE TOWN COUNCIL OF THE TOWN OF FLOWER MOUND, TEXAS, AUTHORIZING THE MAYOR TO ENTER INTO AN ADVANCED FUNDING AGREEMENT WITH THE TEXAS DEPARTMENT OF TRANSPORTATION; AND PROVIDING AN EFFECTIVE DATE.

22. Consider approval of a Landscape Maintenance Agreement with the State of Texas for the Town to maintain the Governor's Community Achievement Award grant project along FM 1171 between FM2499 and Garden Ridge Boulevard.

23. Consider approval of Standards of Care for Youth Recreation Programs operated by the Town, in accordance with the Texas Human Resources Code - Section 42.041 and to adopt an ordinance providing for said Standards.

ORDINANCE NO. 39-20

AN ORDINANCE AMENDING THE CODE OF ORDINANCES, TOWN OF FLOWER MOUND, TEXAS; AMENDING CHAPTER 54, "PARKS AND RECREATION," SECTION 54-202, "ADOPTION;" ADOPTING UPDATED STANDARDS OF CARE FOR YOUTH RECREATION PROGRAMS; REPEALING ALL CONFLICTING ORDINANCES; PROVIDING A SEVERABILITY CLAUSE; AND PROVIDING AN EFFECTIVE DATE.

24. Consider approval of a Professional Services Agreement for monthly gas well pad site air monitoring by Modern Geosciences, LLC, in the amount of $120,000.00; and authorization for the Mayor to execute same on behalf of the Town.

25. *Item #25 was moved from Consent to Regular.*

26. Consider approval of the purchase of wastewater flow meter data loggers and components from Hach Company, a sole source provider, associated with the Inflow-Infiltration/Evaluation and Repair project, in the amount of $96,609.40.

27. Consider approval of Change Order No. 1 for the Lift Station Improvements and Decommissioning Phase II project, amending the contract with Fort Worth Civil Constructors, LLC, in the amount of $32,282.00; and authorization for the Mayor to execute same on behalf of the Town.

Councilmember Sharma moved to approve by consent Items 1–6, 8-24, 26, 27, as presented in the agenda caption. Mayor Pro Tem Engel seconded the motion. Each item, as approved by consent, is restated above, and if applicable, the Ordinance or Resolution caption for each, for the record.

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VOTE ON MOTION: *Motion passed*
AYES: SHARMA, BUMGARNER, ENGEL, MARTIN, PIERSON
NAYS: NONE

J. REGULAR ITEMS

7. Town Council acting as the Board of Directors for the Town of Flower Mound Crime Control and Prevention District to consider approval of a resolution amending the Town of Flower Mound Crime Control and Prevention District budget for the fiscal year beginning on October 1, 2020, and ending on September 30, 2021, as adopted by Resolution No. 19-20.

   Item 7 postponed to the January 4, 2021 meeting.

25. Consider approval of the 2020 Annual Report for the Flower Mound Tax Increment Reinvestment Zone #1 (TIRZ #1) in accordance with Chapter 311 of the Texas Tax Code

    Item 25 postponed to the January 4, 2021 meeting.

Mayor Dixon opened items 28 - 31 at the same time.

28. Public Hearing to consider an ordinance amending the zoning (ZPD20-0005 - Niagara Conservation) from an Agricultural (A) Zoning district to Planned Development District No.179 (PD-179) with Campus Industrial uses, with certain waivers, exceptions and modifications to the Code of Ordinances. The property is generally located north of Enterprise Road and east of Old Gerault Road. (The Planning and Zoning Commission recommended approval of the rezoning request and denial of the exception request to Section 82-376 of the Town Code that requires overhead utilities to be placed underground, by a vote of 6 to 0 at its November 9, 2020, meeting.)

29. Public Hearing to consider an application for a tree removal permit for twenty-five (25) specimen trees on property proposed for development as Niagara Conservation. The property is generally located north of Enterprise Road and east of Old Gerault Road. (The Environmental Conservation Commission recommended approval by a vote of 4-3-0 at its November 4, 2020, meeting).

    Ms. Murphy gave a presentation on items 28 and 29 identifying or noting:
    - General and detailed location
    - Land use and zoning
    - Conceptual site plan
    - Exception request
    - Site photos
    - Conceptual landscape plan
    - Elevations
    - Trees requested for removal
    - Underground utilities
    - Road configuration

    and she, or Ms. Bruce, responded to the following questions from Council:
    - Clarification regarding the road alignment

DRAFT

- What is the future intent for the strip of land adjacent to Enterprise (not part of this project) and if the applicant reached out to that property owner because of the possibility of utilizing that area for an entrance instead
- Wet pond versus dry pond

30. Public Hearing to consider approval of an ordinance establishing a Tax Abatement Reinvestment Zone for commercial tax abatement at 300 Old Gerault Road (Niagara Conservation, Inc., aka Deus, LLC).

31. Public Hearing to consider approval of a Chapter 380 and Tax Abatement Agreement with Niagara Conservation, Inc. (aka Deus, LLC), for the economic development of Flower Mound, and authorization for the Mayor to execute same on behalf of Town.

Ms. Roy gave a presentation for items 30 and 31 identifying or noting:

- Purpose and timing for Tax Abatement Reinvestment Zone
- Incentive request
- Project stats
- Niagara Conservation (company background)
- Site obstacles
- Cost benefit analysis

Applicant Presentation

John Walsh, 4015 University Blvd, Dallas, President, TIG Real Estate Service

Mr. Walsh gave a presentation identifying for noting:

- Company background
- Proposed use of site
- Development obstacles
- Mitigation of Southgate residential impact
- Oncor/CoServ
- Area Power lines – street view, area map
- Old Gerault Rd/Traffic
- Anticipated truck path and traffic

and he responded to the following questions from Council:

- Clarification regarding hours of operation
- Concerns regarding the proximity to the residential neighborhood and park buffer, as well as the truck traffic route, the number of protected trees requested to be removed

and Mr. Meredith responded to the following questions from Council:

- What would be needed to place additional screening on the HOA property (3rd party private property)

Mayor Dixon opened the Public Hearing for items 28 – 31 at 6:34 p.m. No one spoke. Mayor Dixon closed the Public Hearing for items 28 – 31 at 6:34 p.m.

Council Discussion

There was Council discussion regarding:

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- Is this the right location given the adjacency to residential and the park
- Challenge regarding the overhead utilities (and interest in them being buried)
- The number of trees requested to be removed is a concern
- Traffic flow
- Return on investment
- Possibility of a lighter use of Campus Industrial

Mayor Dixon asked the applicant if they have interest in postponing this item to allow time for them to address some of the concerns presented.

Mr. Walsh indicated being acceptable to that.

Councilmember Pierson moved to postpone items 28 – 31, including the Public Hearing, to January 4, 2021. Mayor Pro Tem Engel seconded the motion.

VOTE ON MOTION: *Motion passed*
AYES: PIERSON, MARTIN, ENGEL, SHARMA
NAYS: BUMGARNER

32. Consider a request for a Development Plan (DP20-0004 – Grace Park) to develop a residential subdivision, with an exception to Section IV.C.5. of the Town's Engineering Design Criteria requirement to provide a wet retention pond, and an exception to the access management policy and criteria, regarding driveway spacing, contained in the Town's Engineering Design Criteria and Construction Standards adopted through Chapter 32 of the Code of Ordinances. The property is generally located south of Cross Timbers Road and east of Regency Park Court. (The Planning and Zoning Commission recommended approval by a vote of 5 to 1 at its November 9, 2020, meeting.)

Staff Presentation

Ms. Murphy gave a presentation identifying or noting:

- General and detailed location
- Land use and zoning
- Site photographs
- Development plan
- Exceptions requested

and she, Mr. Dalton, or Mr. Meredith responded to the following questions from Council:

- Clarification regarding the development plan layout
- Clarification regarding the minimum requirement of 50 feet wide for a residential street versus 36 feet for industrial areas
- What type of flexibility does the Town have when a development plan meets zoning requirements.
- Traffic and driveway variance concerns (access on Ida Lane)
- What have the residents on Nan Lane said about the connection

Applicant Presentation

DRAFT

Regional Rembert

Mr. Rembert responded to the following questions from Council:

- Clarification regarding the development plan layout
- Why requesting a dry pond instead of a wet pond

Council Discussion

There was Council discussion regarding:

- Resident concerns regarding traffic
- Background information about the development
- Ideally would like the lot layout like Regency Park; however, the plan meets the Town's requirements, so it needs to be approved

Mayor Pro Tem Engel moved to approve as presented. Councilmember Pierson seconded the motion.

VOTE ON MOTION: *Motion passed*
AYES: SHARMA, BUMGARNER, ENGEL, PIERSON
NAYS: MARTIN

Mayor Dixon opened items 33 and 34 at the same time.

33. Public Hearing to consider an ordinance amending Section 8.0 - Water Plan of the Master Plan (MPA20-0002 - Water Plan) to adopt amendments and additions to the 2009 Water Master Plan Update as a component of the Master Plan. (The Planning and Zoning Commission recommended approval by a vote of 6 to 0 at its November 9, 2020, meeting.)

34. Public Hearing to consider an ordinance amending Section 9.0 - Wastewater Plan of the Master Plan (MPA20-0003 - Wastewater Plan) to adopt amendments to the 2009 Wastewater Master Plan Update as a component of the Master Plan. (The Planning and Zoning Commission recommended approval by a vote of 6 to 0 at its November 9, 2020, meeting.)

Staff/Consultant Presentation

Mr. Waltenburg provided background information regarding the item and Anthony Samarripas, Kyle Sanderson, and Pete Kelly with Kimley Horn gave a presentation identifying or noting:

- Background information
- Project Scope
- Methodology
- Future water supply needs
- Wastewater infrastructure
- Capital Improvements Evaluation
- Next steps

and they responded to the following questions from Council:

- Clarification that the growth projections are based on land use assumptions

DRAFT

Council Discussion

There was Council discussion regarding:

- The amount of dollars proposed to be spent going forward
- How minor adjustments can be made every year and the Town is not committing to all of the funds initially
- Council has the opportunity to review the CIP projects multiple times

Mayor Dixon opened the Public Hearing at 8:59 p.m. No one spoke. Mayor Dixon closed the Public Hearing at 8:59 p.m.

Councilmember Sharma moved to approve items 33 and 34 as presented in the agenda caption. Mayor Pro Tem Engel seconded the motion.

VOTE ON MOTION: *Motion passed*
AYES: MARTIN, ENGEL, BUMGARNER, SHARMA
NAYS: PIERSON

Item 33 Ordinance:

ORDINANCE NO. 40-20

AN ORDINANCE OF THE TOWN COUNCIL OF THE TOWN OF FLOWER MOUND, TEXAS, AMENDING THE MASTER PLAN, BY AMENDING ORDINANCE NO. 24-01 IN PART, WHICH ADOPTED THE MASTER PLAN; BY AMENDING SECTION 8.0 WATER PLAN TO ADOPT UPDATES FOR THE YEAR 2020 TO THE 2009 WATER MASTER PLAN AS A COMPONENT OF THE MASTER PLAN; REPEALING ALL CONFLICTING ORDINANCES, ORDERS, OR RESOLUTIONS; PROVIDING A SEVERABILITY CLAUSE; PROVIDING FOR PUBLICATION; AND PROVIDING AN EFFECTIVE DATE.

Item 34 Ordinance:

ORDINANCE NO. 41-20

AN ORDINANCE OF THE TOWN COUNCIL OF THE TOWN OF FLOWER MOUND, TEXAS, AMENDING THE MASTER PLAN, BY AMENDING ORDINANCE NO. 24-01 IN PART, WHICH ADOPTED THE MASTER PLAN; BY AMENDING SECTION 9.0 WASTEWATER PLAN TO ADOPT UPDATES FOR THE YEAR 2020 TO THE 2009 WASTEWATER MASTER PLAN AS A COMPONENT OF THE MASTER PLAN; REPEALING ALL CONFLICTING ORDINANCES, ORDERS, OR RESOLUTIONS; PROVIDING A SEVERABILITY CLAUSE; PROVIDING FOR PUBLICATION; AND PROVIDING AN EFFECTIVE DATE.

35. Public Hearing to consider the approval of an ordinance adopting updated land use assumptions and updated capital improvements plans, and to update and amend certain provisions of Chapter 42, “Impact Fees,” regarding the imposition of impact fees and amending Appendix A, “Fee Schedule”, accordingly. (The CIAC recommended approval by a vote of 9 to 0 at its November 9, 2020, meeting.)

Staff/Consultant Presentation

Mr. Waltenburg provided background information regarding the item and Anthony Samarripas, Kyle Sanderson, and Pete Kelly with Kimley Horn gave a presentation

identifying or noting:

- Impact fee basics
- Impact fee components
- Impact fee calculations
- Land use assumptions
- Vehicle miles
- Water meter equivalents
- Capital improvement plans
- Roadway impact fee CIP map
- Roadway CIP and growth summary
- Roadway maximum fees
- Water impact fee CIP map
- Water maximum fee
- Water Denton Creek ruse impact fee CIP map
- Wastewater impact fee CIP map
- Wastewater CIP and growth summary
- Next steps
- Roadway, water, and wastewater impact fee comparison
- Possible roadway, and water/wastewater fee options

and they responded to the following questions from Council:

- Clarification regarding:
  - projected growth summary (service area A)
  - residential rates are higher than commercial rates
  - Vehicle miles calculations (average trip of 4.85 miles per vehicle per day, service vehicles, and non-Flower Mound resident traffic)
  - how the projected water demands were calculated
- How many municipalities charge the calculated maximum versus giving discounts, and what's a typical discount
- Is new development cost factored in with the impact fees and was that included in the model presented
- Is the maximum demand (actual or projected uses) and what's the average daily water usage

Council Discussion

There was Council discussion regarding:

- Interest in seeing what the figures are at 80% and show what the Town had been charging up until now (future request: Show 80% of the 2020 calculated maximum)
- Residential versus non-residential rates

Administrative Note:
To satisfy the published public hearing notice for this item, there was a computer set up at Town Hall for public use in the event anyone physically came to Town Hall to participate in the public hearing for this item.

Mayor Pro Tem Engel moved to postpone item 35, including the Public Hearing, to January 4, 2021. Deputy Mayor Pro Tem Bumgarner seconded the motion.

DRAFT

VOTE ON MOTION: *Motion passed*
AYES: SHARMA, BUMGARNER, ENGEL, MARTIN, PIERSON
NAYS: NONE

K./L. CLOSED/OPEN MEETING

The Town Council convened into a closed meeting at 9:59 p.m. on Monday, December 7, 2020, pursuant to Texas Government Code Chapter 551, including, but not limited to, Sections 551.071, 551.072, 551.074, and 551.087 for consultation with attorney, and to discuss matters relating to real property, personnel, and economic development negotiations, and reconvened into an open meeting at 12:10 a.m. on Tuesday, December 8, 2020, and no action was taken on the following items:

a. Consultation with Attorney.

    1. Consultation with Attorney regarding legal issues associated with municipal boundary adjustment/annexation and ESD service issues.

Pursuant to Section 551.071 of the Texas Government Code, the Town Council reserves the right to consult in a closed meeting with its attorney and to receive legal advice regarding any item listed on this agenda.

b. Discuss and consider the recruitment process for the Town Manager, and all matters incident and related thereto.

c. Discuss and consider purchase, exchange, lease or value of real property for parks, public rights-of-way, cultural arts center, and/or other municipal purposes and all matters incident and related thereto.

d. Discuss and consider economic development incentives, including retail centers, corporate relocation/expansion/retention, senior housing, hospitality projects, and performance related to certain incentive agreements.

O. ADJOURN REGULAR MEETING

Mayor Dixon adjourned the meeting at 12:10 a.m. on Tuesday, December 8, 2020, and all were in favor.

TOWN OF FLOWER MOUND, TEXAS

_____
STEVE DIXON, MAYOR

ATTEST:

_____
THERESA SCOTT, TOWN SECRETARY

DRAFT

TOWN COUNCIL AGENDA ITEM NO. 2

CONSENT ITEM

DATE: January 4, 2021

FROM: Theresa Scott, Town Secretary

ITEM: **Consider approval of an ordinance to reappoint Municipal Judge Jeff Tasker for the period of January 1, 2021, through December 31, 2022.**

BACKGROUND INFORMATION: Judge Tasker was originally appointed to serve as Municipal Judge on November 21, 2016, and was reappointed on December 17, 2018, with a term expiration date of December 31, 2020. State law dictates a two-year term for the Municipal Judge. In addition, any action of the governing body regarding the appointment or reappointment must be done by Ordinance. The attached Ordinance renews his term for the period of January 1, 2021, through December 31, 2022.

BOARD REVIEW/CITIZEN FEEDBACK: N/A

ALTERNATIVES/OPTIONS: N/A

FISCAL IMPACT: N/A

Proposed Expenditure/(Revenue):	Account Number(s):
$75,000	

Finance Review by: N/A

LEGAL REVIEW: No modification to the legal content of the original Ordinance reviewed by Taylor, Olson, Adkins, Sralla, & Elam L.L.P., has been made.

ATTACHMENTS:

1. Draft Ordinance

DRAFT MOTION: Move to approve as presented in the agenda caption.

TOWN OF FLOWER MOUND, TEXAS

ORDINANCE NO.

AN ORDINANCE OF THE TOWN COUNCIL OF THE TOWN OF FLOWER MOUND, TEXAS APPOINTING THE JUDGE OF THE MUNICIPAL COURT OF RECORD IN THE TOWN OF FLOWER MOUND; PROVIDING THIS ORDINANCE SHALL BE CUMULATIVE OF ALL ORDINANCES; PROVIDING A SEVERABILITY CLAUSE; AND PROVIDING AN EFFECTIVE DATE.

WHEREAS, the Town of Flower Mound is a home rule city acting under its charter adopted by the electorate pursuant to Article XI, Section 5, of the Texas Constitution and Chapter 9 of the Local Government Code; and,

WHEREAS, the Town Council has created a municipal court of record pursuant to Chapter 30 of the Texas Government Code; and,

WHEREAS, Chapter 30, Section 30.00006, of the Texas Government Code relating to municipal courts of record provides that the governing body shall by ordinance appoint its municipal judges; and,

WHEREAS, pursuant to the section 4.04.1 of the Town Charter and section 26-51 of the Town's Code of Ordinances, the Town Council shall have the right and authority to name judges and/or associate judges to preside over the judicial functions for the Flower Mound Municipal Court of Record;

NOW, THEREFORE, BE IT ORDAINED BY THE TOWN COUNCIL OF THE TOWN OF FLOWER MOUND, TEXAS:

SECTION 1

It is hereby found that the office of municipal judge of the Town of Flower Mound, Texas is of benefit to the State of Texas and to the Town of Flower Mound.

SECTION 2

Jeff Tasker is hereby appointed as municipal judge of the Town of Flower Mound Municipal Court of Record for a two-year term to begin on January 1, 2021, and to expire on December 31, 2022. At the expiration of said term, in accordance with Article 16, Section 17 of the Texas Constitution, Jeff Tasker shall continue to serve until his successor shall be duly qualified.

SECTION 3

In accordance with Section 30.00007, Texas Government Code, Jeff Tasker shall serve as Presiding Judge of the Town of Flower Mound Municipal Court of Record with all attendant rights and duties thereto. In addition, Jeff Tasker shall perform those duties and responsibilities provided in Exhibit "A" attached hereto and incorporated herein.

SECTION 4

A. As compensation for all required services, the Town agrees to pay to the Presiding Judge Seventy-Five Thousand and No/00 Dollars ($75,000.00) annually, payable in monthly installments for all duties and responsibilities.

B. In the event the Judge is required to testify at a court proceeding relative to his duties as Judge, the Judge shall be entitled to receive compensation at an amount of $100.00 per half day of appearance in court, to be approved by the Town in advance of such testimony, when feasible.

C. The Judge shall send a bill to the Town once per month not later than the fifth day of each month. The bill shall indicate each date that the Judge performed a compensable duty outlined in above, the duty performed, and the applicable flat daily rate. The bill shall also provide a total invoiced amount for the month.

D. The Town shall pay the Judge once per month within twenty-one (21) days from the date the invoice is received by the Town unless the invoice is disputed by the Town, in which instance the Town may withhold the amount(s) of the disputed charges until such dispute is settled.

E. The Town understands and agrees that certain judicial training is mandated by the State of Texas for the Judge. Such training and expenses associated with such training, and payment therefor, shall be coordinated with the Town's Chief Financial Officer in advance of any such training. Judge will not be otherwise compensated for such training.

SECTION 5

This Ordinance shall be cumulative of all provisions of ordinances and of the Code of Ordinances of the Town of Flower Mound, Texas, as amended, except when the provisions of this Ordinance are in direct conflict with the provisions of such ordinances and such code, in which event the conflicting provisions of such ordinances and such code are hereby repealed.

SECTION 6

It is hereby declared to be the intention of the Town Council that the phrases, clauses, sentences, paragraphs, and sections of this Ordinance are severable, and if any phrase, clause, sentence, paragraph, or section of this Ordinance shall be declared unconstitutional by any court of competent jurisdiction, such unconstitutionality shall not affect any of the remaining phrases, clauses, sentences, paragraphs, and sections of this Ordinance, since same would have been enacted by the Town Council without the incorporation in this Ordinance of any such unconstitutional phrase, clause, sentence, paragraph, or section, and said remaining portions shall remain in full force and effect.

SECTION 7

This Ordinance shall take effect and be in full force from and after the date of its passage.

DULY PASSED AND APPROVED BY THE TOWN COUNCIL OF THE TOWN OF FLOWER MOUND, TEXAS BY A VOTE OF ___ TO ___, ON THIS 4TH DAY OF JANUARY, 2021.

APPROVED:

Steve Dixon, MAYOR

ATTEST:

Theresa Scott, TOWN SECRETARY

Exhibit "A"
Duties and Responsibilities
Presiding Judge, Town of Flower Mound

Duties.

a. The Judge shall perform the functions and duties specified in the applicable sections of the Town Charter and Town Ordinances, and shall perform such other legally permissible and proper duties and functions as the Town shall assign from time to time. The Judge shall provide the Town Council with semi-annual updates of matters in the Flower Mound Municipal Court, and such updates shall be presented by the Judge to the Town Secretary (for distribution to the Town Council) within twenty (20) calendar days following December 31, 2020, June 30, 2021, December 31, 2021, June 30, 2022, and December 31, 2022, with the June reports to be presented in person. Additional reporting may be presented as deemed necessary by the Judge. Upon request of the Mayor or Town Council, such updates may be presented at a scheduled Town Council meeting.

b. The Judge shall perform all services and duties customarily performed by a judge of a municipal court in the State of Texas.

c. The Judge is required to keep abreast of state law and local ordinances, including state-mandated fees for the Flower Mound Municipal Court. Although a recognized function of judicial discretion, the Judge shall endeavor to enforce the law consistently and within suggested state guidelines and pursuant to the Standing Orders, and shall be uniform and consistent in the implementation of judicial policy in accordance with State law and local ordinances. The Judge shall apply the law and enter judgments in accordance with State law and local ordinances, shall abide by all mandatory provisions of the law, and shall not create or apply exceptions where none exist under law. Judicial discretion shall only be applied where allowed under law.

d. The Judge shall operate within the docket schedule prepared and coordinated by the Judge, the Court Administrator, the Municipal Court Prosecutor, the Town Attorney and the Town Manager, or designees thereof. The Judge shall timely perform all duties, including, but not limited to, the dockets set forth in the docket schedule.

Standing Orders.

a. The Town Council desires uniformity and consistency in the implementation of judicial policy in accordance with state law and local ordinances. Therefore, the Judge shall utilize the "Bench Book" produced by the Texas Municipal Court Education Center.

b. The Judge shall promulgate and maintain judicial policies and procedures for insertion into "Standing Orders" which addresses the daily administration of the municipal court and trial procedures, for matters such as dismissals, installment payments, deferred disposition, and continuances. The Court Administrator will be available for consultation and comment with regard to any proposed procedures should the Judge so desire. The Town will provide the necessary secretarial staff to the Judge for clerical assistance. The Standing Orders shall be signed by each judge appointed by the Town Council. Any changes to the Standing Orders must be in writing and signed by the Judge prior to incorporation. No policy will be implemented by the clerks of the court prior to the same being in written form and executed by the Judge. Court clerks will not enforce oral policies.

c. The Judge shall adhere to the Standing Orders.

On Call Procedures.

a. A written schedule setting the assigned judges' duty report days shall be created and provided by the Judge to the Court and to the Police Department on a monthly basis no later than seven (7) days prior to the end of the previous month. Each day of the month shall have an assigned judge on duty for arraignments and on duty for the scheduled court sessions. Duty days for the assigned judge shall begin at 7:00 a.m. and continue for the next twenty-four (24) hours. Changes to the "On Call" status shall be made by agreement between the Judge and any alternate judges; any modification to the schedule shall be submitted to the Court and to the Police Department, in writing, including the effective date, seven (7) days (or within a reasonable amount of time) prior to any previously established schedule, excluding exigent circumstances. It is the responsibility of each judge to notify the Court and the Police Department of current telephone numbers and locations where the "On Call" judge may be reached while on duty if said number or locations are different from any such numbers or locations on file.

b. When "On Call," the Judge must return calls within thirty (30) minutes. In the event the "On-Call" alternate judge fails to respond, the Judge may be called.

Municipal Court Operations.

a. The Judge and Court Administrator shall coordinate a specific date and time, two (2) days per week, to allow the Judge to review and execute all necessary court documents. This schedule shall be a permanent responsibility, which must be maintained other than for emergencies or upon advance notice.

b. Court shall commence promptly for scheduled docket times on designated court dates. The Judge shall make every effort to take the bench and convene court dockets at the designated docket time.

Arraignments.

a. Jail arraignments shall be performed on a daily basis in accordance with the rules in the Standing Orders and all applicable state and federal laws. An officer or community services officer shall be made available for assisting with arraignments.

b. All paperwork from jail arraignments must be properly completed. The Judge shall ensure that no judicially-inputted information is omitted on judgments, warrants and probable cause affidavits. Any documents prepared by Town staff that are not properly completed will be returned for correction by the Judge; however, this shall in no way be read to create a duty for the Judge to correct the document or to give legal advice to Town staff.

c. The Judge shall be available when "On Call" to sign warrants, probable cause affidavits or emergency arraignments (such as for medical emergencies) at times other than as scheduled, or for times outside the normal business day of 8:00 a.m. to 5:00 p.m.

d. Every effort shall be made by the Judge to give at least thirty (30) minutes' notice to police personnel (either by contacting the CSO on duty or the main Flower Mound Police Department telephone number) prior to arrival on Town premises to conduct arraignments.

TOWN COUNCIL AGENDA ITEM NO. 3

CONSENT ITEM

DATE: January 4, 2021

FROM: Kay Wilkinson, Budget Officer

ITEM: **Consider approval of a resolution suspending the January 23, 2021, effective date of CoServ Gas Ltd.'s requested rate increase in order for the Town to study the request with other cities in the service area.**

BACKGROUND INFORMATION: On November 13, 2020, CoServ Gas, Ltd. ("CoServ" or "Company"), pursuant to Subchapter C of Chapter 104 of the Gas Utility Regulatory Act, filed its Statement of Intent to change gas rates at the Railroad Commission of Texas ("RRC") and in all municipalities exercising original jurisdiction within its service area, effective January 23, 2021. CoServ is seeking to increase its gas rates on a system-wide basis by $9.6 million per year, and by $8,113,409 in the incorporated areas. This equates to an increase of 11.6% on total revenues, or 29.0% increase in base rates for the incorporated areas. CoServ is also requesting: (1) Commission approval of depreciation rates for distribution and general plant; (2) a prudence determination for capital investment; (3) a finding that the approvals of the administrative orders by the Gas Services Division of the Commission based on the Accounting Order in Gas Utilities Docket No. 10695 are reasonable and accurate; and (4) a surcharge on customer bills to recover the reasonable rate case expenses associated with the filing of this statement of intent.

The resolution suspends the January 23, 2021, effective date of the Company's rate increase for the maximum period permitted by law to allow the Town, working in conjunction with other similarly situated cities with original jurisdiction served by CoServ, to evaluate the filing, to determine whether the filing complies with the law, and if lawful, to determine what further strategy, including settlement, to pursue. The law provides that a rate request made by cannot become effective until at least 35 days following the filing of the application to change rates. The law permits the Town to suspend the rate change for 90 days after the date the rate change would otherwise be effective. If the Town fails to take some action regarding the filing before the effective date, CoServ's rate request is deemed approved.

BOARD REVIEW/CITIZEN FEEDBACK: N/A

ALTERNATIVES/OPTIONS: N/A

FISCAL IMPACT: N/A

Finance Review by: Debra Wallace, Interim Town Manager/CFO

LEGAL REVIEW: Cara Leahy White of Taylor, Olson, Adkins, Sralla, & Elam L.L.P., has reviewed the resolution as to form and legality.

ATTACHMENTS:

1. Resolution

DRAFT MOTION: Move to approve as presented in the agenda caption.

RESOLUTION NO. _____

A RESOLUTION OF THE TOWN OF FLOWER MOUND, TEXAS SUSPENDING THE JANUARY 23, 2021, EFFECTIVE DATE OF COSERV GAS, LTD.'S REQUESTED INCREASE TO PERMIT THE TOWN TIME TO STUDY THE REQUEST AND TO ESTABLISH REASONABLE RATES; APPROVING COOPERATION WITH OTHER CITIES IN THE COSERV GAS, LTD. SERVICE AREA; HIRING LEGAL AND CONSULTING SERVICES TO NEGOTIATE WITH THE COMPANY AND DIRECT ANY NECESSARY LITIGATION AND APPEALS; AUTHORIZING INTERVENTION IN DOCKET OS-20-00005136 AT THE RAILROAD COMMISSION; REQUIRING REIMBURSEMENT OF CITIES' RATE CASE EXPENSES; FINDING THAT THE MEETING AT WHICH THIS RESOLUTION IS PASSED IS OPEN TO THE PUBLIC AS REQUIRED BY LAW; REQUIRING NOTICE OF THIS RESOLUTION TO THE COMPANY AND LEGAL COUNSEL.

WHEREAS, on or about November 13, 2020, CoServ Gas, Ltd. ("CoServ" or "Company"), pursuant to Gas Utility Regulatory Act § 104.102, filed with the Town of Flower Mound ("Town") a Statement of Intent to change gas rates in all municipalities exercising original jurisdiction within the Company's service area, effective January 23, 2021; and

WHEREAS, the Town is a gas customer of CoServ and a regulatory authority with exclusive original jurisdiction over the rates and charges of CoServ within the Town; and

WHEREAS, it is reasonable for the Town of Flower Mound to cooperate with other similarly situated cities in conducting a review of the Company's application and to hire and direct legal counsel and consultants and to prepare a common response and to negotiate with the Company and direct any necessary litigation; and

WHEREAS, the Gas Utility Regulatory Act § 104.107 grants local regulatory authorities the right to suspend the effective date of proposed rate changes for ninety (90) days; and

WHEREAS, CoServ has filed an application with the Railroad Commission, Docket No. OS-20-00005136 that could become the docket into which appeals of town action on the CoServ filing are consolidated; and

WHEREAS, the Gas Utility Regulatory Act § 103.022 provides that costs incurred by Cities in ratemaking activities are to be reimbursed by the regulated utility.

THEREFORE, BE IT RESOLVED BY THE TOWN COUNCIL OF THE TOWN OF FLOWER MOUND, TEXAS:

SECTION 1. That the January 23, 2021, effective date of the rate request submitted by CoServ on or about November 13, 2020, be suspended for the maximum period allowed by law to permit adequate time to review the proposed changes and to establish reasonable rates.

SECTION 2. That the Town is authorized to cooperate with other cities in the CoServ service area to hire and direct legal counsel and consultants, negotiate with the Company, make recommendations to the Town regarding reasonable rates and to direct any necessary administrative proceedings or court litigation associated with an appeal of a rate ordinance and the rate case filed with the Town or Railroad Commission.

SECTION 3. That, subject to the right to terminate employment at any time, the Town of Flower Mound hereby authorizes the hiring of Thomas Brocato of the law firm of Lloyd Gosselink Rochelle & Townsend, P.C., and consultants to represent the Town in all matters associated with the CoServ application to increase rates and appeals thereof.

SECTION 4. That intervention in Railroad Commission Docket No. OS-20-00005136 is authorized.

SECTION 5. That the Town's reasonable rate case expenses shall be reimbursed by CoServ.

SECTION 6. That it is hereby officially found and determined that the meeting at which this Resolution is passed is open to the public as required by law and the public notice of the time, place, and purpose of said meeting was given as required.

SECTION 7. A copy of this Resolution shall be sent to CoServ, care of Charles Harrell, CoServ Gas, Ltd. 7701 South Stemmons Freeway, Corinth, Texas 76210 (CHarrell@coserv.com), and to Thomas Brocato at Lloyd Gosselink Rochelle & Townsend, P.C., 816 Congress Avenue, Suite 1900, Austin, Texas 78701 (tbrocato@lglawfirm.com).

PASSED AND APPROVED this 4th day of January, 2021.

APPROVED:

_____

Steve Dixon, MAYOR

ATTEST:

_____

Theresa Scott, TOWN SECRETARY

TOWN COUNCIL AGENDA ITEM NO. 4

CONSENT ITEM

DATE: January 4, 2021

FROM: Kay Wilkinson, Budget Officer

ITEM: **Town Council acting as the Board of Directors for the Town of Flower Mound Crime Control and Prevention District to consider approval of a resolution amending the Town of Flower Mound Crime Control and Prevention District budget for the fiscal year beginning on October 1, 2020, and ending on September 30, 2021, as adopted by Resolution No. 19-20.**

BACKGROUND INFORMATION: At the March 3, 2008, Town Council meeting, the Town Council acting as the Board of Directors for the Crime District, adopted alternative budget procedures for the Crime District to follow similar procedures and dates to the Town's annual budget.

The attached budget amendment represents an adjustment of the FY 2020-2021 Crime District Budget. According to Section 12 of Resolution No. 06-08, "During the fiscal year, the Town Council shall have the power to transfer funds allocated by the budget from one department to another department, and to re-estimate revenues and expenditures."

The Crime District Fund budget will increase by $14,906. This budget amendment is to re-appropriate the balances of outstanding purchase orders for items or services ordered but not received by September 30, 2020.

BOARD REVIEW/CITIZEN FEEDBACK: N/A

ALTERNATIVES/OPTIONS: N/A

FISCAL IMPACT: $ 14,906

Proposed Expenditure/ (Revenue):		Account Number(s):
	$ 14,906	Fund 318 Crime District Fund
	$ 14,906	

Finance Review by: Debra Wallace, Interim Town Manager/CFO

LEGAL REVIEW: No alteration to the legal content of this resolution, which was originally approved by Taylor, Olson, Adkins, Sralla, & Elam L.L.P, was made.

ATTACHMENTS:

1. Proposed Resolution

DRAFT MOTION: Move to approve as presented in the agenda caption.

TOWN OF FLOWER MOUND, TEXAS

RESOLUTION NO. _____

A RESOLUTION OF THE TOWN COUNCIL OF THE TOWN OF FLOWER MOUND, TEXAS, ACTING AS THE BOARD OF DIRECTORS OF THE TOWN OF FLOWER MOUND CRIME CONTROL AND PREVENTION DISTRICT, AMENDING THE BUDGET FOR THE TOWN OF FLOWER MOUND CRIME CONTROL AND PREVENTION DISTRICT FOR THE FISCAL YEAR BEGINNING OCTOBER 1, 2020, AND ENDING SEPTEMBER 30, 2021, AS ADOPTED BY RESOLUTION NO. 19-20; PROVIDING A SEVERABILITY CLAUSE; AND DECLARING AN EFFECTIVE DATE.

WHEREAS, the Town Council acting as the Board of Directors of the Town of Flower Mound Crime Control and Prevention District (Crime District) has adopted procedures for adopting and amending a budget that are different from the procedures outlined in Texas Local Government Code Section 363.204, as permitted by such section; and

WHEREAS, the Town Council acting as the Board of Directors of the Crime District caused to be filed with the Town Secretary, in accordance with the procedures adopted therefore, a budget to cover all proposed expenditures of the Crime District for the fiscal year beginning October 1, 2020, and ending September 30, 2021; and

WHEREAS, said Crime District Budget was adopted by Resolution No. 19-20 on September 21, 2020; and

WHEREAS, after approval of said Resolution, unexpected needs have arisen which require amendment of the Crime District Budget adopted thereby.

NOW, THEREFORE, BE IT RESOLVED BY THE TOWN COUNCIL OF THE TOWN OF FLOWER MOUND, TEXAS, ACTING AS THE BOARD OF DIRECTORS OF THE TOWN OF FLOWER MOUND CRIME CONTROL AND PREVENTION DISTRICT, THAT:

SECTION 1

All of the above premises are hereby found to be true and correct legislative and factual determinations of the Town of Flower Mound and they are hereby approved and incorporated into the body of this Resolution as if copied in their entirety.

SECTION 2

The Crime District Budget, for the fiscal year beginning on October 1, 2020, and ending on September 30, 2021, as heretofore adopted by Resolution No. 19-20, is hereby amended to provide for adjustments as shown in Exhibit “A”, attached hereto and incorporated herein.

SECTION 3

The expenditures and amendments authorized by this Resolution are necessary to meet unusual and/or unforeseen conditions or circumstances that could not have been included in the original budget through the use of reasonably diligent thought and attention.

SECTION 4

The Town Manager shall file or cause to be filed three (3) true and correct copies of said amended budget, along with this Resolution, with the Town Secretary, who shall file or cause to be filed one (1) true and correct copy of same in the office of the County Clerk of Denton County, Texas and one (1) true and correct copy of same in the office of the County Clerk of Tarrant County, Texas.

SECTION 5

If any section, paragraph, sentence, clause, phrase, or word in this Resolution, or application thereof by any persons or circumstances is held invalid in any Court of competent jurisdiction, such holding shall not affect the validity of the remaining portions of this Resolution; and the Town Council acting as the Board of Directors of the Crime District hereby declares it would have passed such remaining portions of the resolution despite such invalidity, which remaining portions shall remain in full force and effect.

SECTION 6

This Resolution shall take effect and be in full force from and after its passage and adoption.

DULY PASSED, APPROVED AND ADOPTED BY THE TOWN COUNCIL OF THE TOWN OF FLOWER MOUND, TEXAS, BY A VOTE OF _____ TO _____ ON THIS 4th DAY OF JANUARY, 2021.

APPROVED:

_____
Steve Dixon, MAYOR

ATTEST:

_____
Theresa Scott, TOWN SECRETARY

RESOLUTION NO. _____ **PAGE 3**

EXHIBIT "A"

Town of Flower Mound
Crime Control and Prevention District
Amended Budget
Fiscal Year 2020-2021

REASON FOR ADJUSTING THE CRIME DISTRICT FUND APPROPRIATION:

The Crime District Fund, expenditures will increase by $14,906 from $3,208,899 to $3,223,805; to re-appropriate funds budgeted in prior years for outstanding purchase orders at September 30, 2020.

Crime District Fund	Original Budget	Current Budget	Amended Budget	Increase / (Decrease)
Expenditures:				
Police Services	$ 3,208,899	$ 3,208,899	$ 3,223,805	$ 14,906
Total	**$ 3,208,899**	**$ 3,208,899**	**$ 3,223,805**	**$ 14,906**

TOWN COUNCIL AGENDA ITEM NO. 5

CONSENT ITEM

DATE: January 4, 2021

FROM: Matthew J. Hotelling, P.E., PTOE, ADAC, Traffic Engineer

ITEM: **Consider approval of a Reimbursement Agreement for Quiet Zone Services by the Union Pacific Railroad (UPRR) at the FM 1171/UPRR crossing for an estimated $20,000.00; and authorization for the Mayor to execute same on behalf of the Town.**

BACKGROUND INFORMATION: As more development takes place on the western side of Flower Mound in the vicinity of the FM 1171 and Union Pacific Railroad (UPRR) crossing, the likelihood of additional requests for a quiet zone at this crossing will occur. To date, the Town has received requests from the Trailwood Subdivision neighborhood due to their close proximity to this crossing. This agreement is for the reimbursement of services that the UPRR will provide in the establishment of this quiet zone. It is an estimated amount from the railroad. The agreement states that the Town will pay for actual costs associated with this work. Therefore, the cost could be more or less than the estimated amount. The Town entered into the same agreement with the quiet zone crossing request at the UPRR/Canyon Falls Drive location. As a result of this work, the UPRR may identify other necessary changes that would be required to make this location a quiet zone. If UPRR requires additional work to take place at this crossing, a permit through the Texas Department of Transportation (TxDOT) would be required. If the additional work is substantial, a project would be added to the Capital Improvement Program for such work.

Based on the current Town Master Thoroughfare Plan, this location is identified as a grade separated crossing (overpass) with FM 1171 going over the UPRR rail line. Once the overpass is complete, there will no longer be a conflict between UPRR and FM 1171. There are discussions ongoing with TxDOT and Denton County to have this overpass included with the next segment (Phase II) of the US 377 work. Based on information from the TxDOT construction project tracker, that project is not anticipated to begin construction for 10+ years.

It is important to point out that there is a private railroad crossing at the southern end of Town near Cowboy Lane. This agreement and successful quiet zone application for FM 1171 will not affect this private crossing. The UPRR trains will likely continue to blow their horns at this location and continue to affect the residents of the Trailwood subdivision.

BOARD REVIEW/CITIZEN FEEDBACK: This location has been requested by a number of residents in the Trailwood subdivision. This item has not gone before any board.

ALTERNATIVES/OPTIONS: Leave the crossing as is and wait until overpass is constructed

FISCAL IMPACT: Estimated $20,000

Proposed Expenditure/(Revenue):	Account Number(s):
$20,000.00	505-220-70622 Roadway Amenities

Finance Review by: Debra Wallace, Interim Town Manager /CFO DW

LEGAL REVIEW: Cara White of Taylor, Olson, Adkins, Sralla, & Elam L.L.P., has reviewed the agreement as to form and legality.

ATTACHMENTS:

1. Reimbursement Agreement

DRAFT MOTION: Move to approve as presented in the agenda caption.

Attachment 1

QZ ID: TX121005
UPRR REMS
Project 768351

REIMBURSEMENT AGREEMENT
QUIET ZONE SERVICES

Public Authority: CITY OF FLOWER MOUND, TEXAS

Effective Date:

Estimate: $20,000.00

THIS REIMBURSEMENT AGREEMENT (**Agreement**) is made and entered into as of the **Effective Date**, by and between UNION PACIFIC RAILROAD COMPANY, a Delaware corporation (**Railroad**), and PUBLIC AUTHORITY (**Public Authority**).

RECITALS

A. Public Authority desires to initiate the project more particularly described on **Exhibit A** attached hereto (**Project**).

B. The Project may affect Railroad's track, right of way or operations at or near the Project area more particularly described on **Exhibit A**.

C. Railroad agrees to collaborate with Public Authority on the progression of the Project in accordance with the terms and conditions of this Agreement and any federal regulations.

AGREEMENT

NOW THEREFORE, the parties hereto agree as follows:

1. Railroad, and/or its representatives, at Public Authority's sole cost and expense, agrees to perform (or shall cause a third-party consultant to perform on Railroad's behalf) the quiet zone (QZ) engineering services work described on **Exhibit B** attached hereto (**QZ Work**). Public Authority acknowledges and agrees that: (a) Railroad's review of any Project designs, plans and/or specifications, as part of the QZ Work, is limited exclusively to potential impacts on existing and future Railroad facilities and operations; (b) Railroad makes no representations or warranties as to the validity, accuracy, legal compliance or completeness of the QZ Work; and (c) Public Authority's reliance on the QZ Work is at Public Authority's own risk.

2. Notwithstanding the **Estimate**, Public Authority agrees to reimburse Railroad and/or Railroad's third party consultant, as applicable, for one hundred percent (100%) of all actual costs and expenses incurred for the QZ Work. During the performance of the QZ Work, Railroad will provide (and/or will cause its third party consultant to provide) progressive billing to Public Authority based on actual costs in connection with the QZ Work. Within sixty (60) days after completion of the QZ Work, Railroad will submit (and/or will cause its third party consultant to submit) a final billing to Public Authority for any balance owed for the QZ Work. Public Authority shall pay Railroad (and/or its third-party consultant, as applicable) within thirty (30) days after Public Authority's receipt of any progressive and final bills submitted for the QZ Work. Bills will

be submitted to the Public Authority using the contact information provided on **Exhibit C**. Public Authority's obligation hereunder to reimburse Railroad (and/or its third party consultant, as applicable) for the QZ Work shall apply regardless if Public Authority declines to proceed with the Project or Railroad elects not to approve the Project.

3. Public Authority acknowledges and agrees that Railroad may withhold implementation or raise objections to the Project due to noncompliance with federal regulations or impacts to Railroad's safety, facilities or operations.

4. If Public Authority elects to move forward with the Project and the plans include Railroad work, Railroad shall prepare and forward to Public Authority a separate reimbursement agreement for preliminary engineering services to develop final plans and specifications, and prepare material and force cost estimates for any work required to be performed by the Railroad. The Agreement herein will remain in effect for the duration of the QZ Work described in **Exhibit B**.

5. Neither party shall assign this Agreement without the prior written consent of the other party, which consent shall not be unreasonably withheld, conditioned or delayed.

6. No amendment or variation of the terms of this Agreement shall be valid unless made in writing and signed by the parties.

7. This Agreement sets forth the entire agreement between the parties regarding the Project and QZ Work. To the extent that any terms or provisions of this Agreement regarding the QZ Work are inconsistent with the terms or provisions set forth in any existing agreement related to the Project, such terms and provisions shall be deemed superseded by this Agreement to the extent of such inconsistency.

IN WITNESS WHEREOF, the parties hereto have duly executed this Agreement as of the Effective Date.

CITY OF FLOWER MOUND, TEXAS	**UNION PACIFIC RAILROAD COMPANY,** a Delaware Corporation
_____	_____
Signature	Signature
_____	Melinda S. DuBay
Printed Name	Printed Name
_____	Manager I, Engineering – Public Projects
Title	Title

Exhibit A
Project Description and Location

Project Description
City of Flower Mound, TX proposes to establish a quiet zone at the crossing listed below.

Subdivision: Choctaw

At-grade crossing locations, if known.

DOT	Crossing Type	Milepost	Street Name
795442A	Public	731.02	FM 1171

Exhibit B
Scope of Project Services

Scope of work includes, but is not limited to the following.

- Meetings
- Field diagnostic(s) and inspections
- Notice of intent review and comments
- Public authority application review and comments
- Notice of establishment review and comments
- Implementation efforts
- Grade crossing inventory updates
- Travel expenses

Exhibit C
Billing Contact Information

Name	Matthew Hotelling
Title	Traffic Engineer
Street	2121 Cross Timbers Road
City/State/Zip	Flower Mound, TX, 75028
Work Phone	(972) 874-6315
Cell Phone	
Email	matthew.hotelling@flower-mound.com

TOWN COUNCIL AGENDA ITEM NO. 6

CONSENT ITEM

DATE: January 4, 2021

FROM: Brian Waltenburg P.E., Assistant Director of Engineering

ITEM: **Consider approval of a Professional Services Agreement for the design phase services for the Lift Station Improvements and Decommissioning Phase III project, with Plummer, Inc., for $48,700.00; and authorization for the Mayor to execute same on behalf of the Town.**

BACKGROUND INFORMATION: Phase III of the Lift Station Improvements and Decommissioning project includes the initial evaluation of improvements at the following lift stations: Kipling & Park Bend. Once the initial evaluation is complete, a Professional Services Agreement amendment to include detailed design will be presented to council for consideration. The project will reduce maintenance and operational costs, keep the facilities within Texas Commission on Environmental Quality (TCEQ) compliance, address structural deficiencies, and replace necessary equipment.

Kipling and Park Bend lift stations were originally included in phase II of this project. During evaluation and design of the Kipling lift station it was determined that more extensive work would be necessary and that it should be separated into its own project. Because Park Bend discharges into the Kipling lift station, it was determined that the two would be evaluated and constructed together.

BOARD REVIEW/CITIZEN FEEDBACK: N/A

ALTERNATIVES/OPTIONS: Lift stations are a critical part of the Town's wastewater collection system. During routine inspections, many components of the listed lift stations were identified to be in poor condition. Due to their age and condition, the lift stations will become more susceptible to leaks or failures. A decision to not approve the proposed agreement would result in the lift stations continuing to deteriorate and risk failure. The Town would be open to enforcement action by the TCEQ should sewage spill from a lift station.

FISCAL IMPACT: $48,700.00

Proposed Expenditure/(Revenue):	Account Number(s):
$48,700.00	630-970-98582

Finance Review by: Debra Wallace, Interim Town Manager /CFO DW

Total project cost is $ 980,000. Funding sources are:

- Utility Debt $ 980,000

LEGAL REVIEW: The Town's standard Professional Services Agreement form documents prepared by Taylor, Olson, Adkins, Sralla, & Elam L.L.P., were used to draft this agreement. No alteration to the legal content of this form document was made in preparation of this Professional Services Agreement.

ATTACHMENTS:

1. Professional Services Agreement

DRAFT MOTION: Move to approve as presented in the agenda caption.

THE STATE OF TEXAS §
COUNTY OF DENTON §

PROFESSIONAL SERVICES AGREEMENT WITH PLUMMER, INC.

This contract is entered into on this 4th day of January, 2021, by and between the **TOWN OF FLOWER MOUND, TEXAS,** a municipal corporation located in Denton County, Texas, (hereinafter referred to as "TOWN"), acting by and through its Mayor, and **Plummer, Inc.,** ("hereinafter referred to as "CONSULTANT") whose address is 14755 Preston Road, Suite 420, Dallas, Texas 75254.

RECITALS

WHEREAS, TOWN desires to obtain professional services from CONSULTANT relative to surveying, design and providing construction documents for the Lift Station Improvements and Decommissioning Phase III project; and

WHEREAS, CONSULTANT is an engineering firm qualified to provide such services and is willing to undertake the performance of such services for the TOWN in exchange for fees hereinafter specified;

TERMS OF AGREEMENT

NOW, THEREFORE, in consideration of the covenants and agreements hereinafter contained and subject to the terms and conditions hereinafter stated, the parties hereto do mutually agree as follows:

I.
Employment of Consultant

CONSULTANT will perform as an independent contractor all services under this Contract to the prevailing professional standards consistent with the level of care and skill ordinarily exercised by members of the architectural, engineering and planning professions, both public and private, currently practicing in the same locality under similar conditions including but not limited to the exercise of reasonable, informed judgments and prompt, timely action. If CONSULTANT has represented or is representing that it has special expertise in one or more areas to be utilized in this Contract, then CONSULTANT agrees to perform those special expertise services to the appropriate local, regional and national professional standards.

II.
Scope of Services

CONSULTANT shall perform such services as are necessary to provide services for the Lift Station Improvements and Decommissioning Phase III project specifically including, but not necessarily limited to, the tasks enumerated more fully in Attachment "A" hereto entitled "Scope of Work" (hereafter referred to as the "Project"). Attachment "A" is hereby incorporated herein by reference and made a part hereof as if written word for word. However, in case of conflict in the language of Attachment "A" and this Contract, the terms and conditions of this Contract shall be final and binding upon both parties hereto.

III.
Payment for Services

Total payment for services described herein shall be a sum not to exceed Forty-Eight Thousand Seven Hundred and No/100 Dollars ($48,700.00). This total payment for services includes CONSULTANT's ordinary expenses. Additional expenses and charges, which are extraordinary in nature, must be approved in advance by TOWN in writing signed by the parties. Such extraordinary expenses may be paid as incurred and billed to the TOWN pursuant to this Contract over and above the total payment amount identified in this provision. Any extraordinary expenses or charges not approved in writing in advance by the TOWN shall remain the sole responsibility of the CONSULTANT. If CONSULTANT retains any subcontractors to perform any of the work, CONSULTANT acknowledges that payments to such subcontractors are due and payable in accordance with the provisions of Texas Government Code Section 2251.022, and that interest on unpaid and overdue amounts shall accrue in accordance with Texas Government Code Section 2251.025.

CONSULTANT will bill TOWN on a lump sum basis in accordance with Attachment "B"; provided however that this Contract shall control in the event of any conflict between the language in Attachment "B" and the language in this Contract. If additional services, trips or expenses are requested, CONSULTANT will not provide such additional services until authorized by TOWN in writing to proceed. The scope of services shall be strictly limited. TOWN shall not be required to pay any amount in excess of the amount identified in the preceding paragraph unless TOWN shall have approved in writing in advance (prior to the performance of additional work) the payment of additional amounts.

Each month CONSULTANT will submit to TOWN an invoice for supporting the percentage for which payment is sought by CONSULTANT during the previous month for which payment is sought. Each invoice shall also state the percentage of work completed on the Project, the total of the current invoice amount and a running total balance for the Project to date.

Assuming that TOWN agrees with the invoice, that TOWN has not determined any of the work to be unsatisfactory, or that TOWN otherwise does not dispute any of the amounts billed, TOWN shall make payments in the amount shown by CONSULTANT's approved monthly statements and other documentation submitted in compliance with the Texas Prompt Payment Act, Texas Government Code Chapter 2251.

Nothing contained in this Contract shall require TOWN to pay for any work that TOWN has determined has not been successfully completed or is unsatisfactory as determined by TOWN, or which is not otherwise submitted in compliance with the terms of this Contract, nor shall failure to withhold payment pursuant to the provisions of this section constitute a waiver of any right, at law or in equity, which TOWN may have if CONSULTANT is in default, including the right to bring legal action for damages or for specific performance of this Contract. Waiver of any default under this Contract shall not be deemed a waiver of any subsequent default.

IV.
Revisions of the Scope of Services

TOWN reserves the right to revise or expand the scope of services after due approval by TOWN as TOWN may deem necessary, but in such event TOWN shall pay CONSULTANT equitable compensation for such services. In any event, when CONSULTANT is directed to revise or expand the scope of services under this Section of the Contract, CONSULTANT shall provide TOWN a written proposal for the entire costs involved in performing such additional services. Prior to CONSULTANT undertaking any revised or expanded services as directed by TOWN under this Contract, TOWN must authorize in writing the nature and scope of the services and accept the method and amount of compensation and the time involved in all phases of the Project.

It is expressly understood and agreed by CONSULTANT that any compensation not specified in Paragraph III herein above may require Flower Mound Town Council approval and is subject to the current budget year limitations.

V.
Term

This Contract shall begin on the date first written above, and shall terminate when TOWN has approved the Project as being final or otherwise terminates this Contract as provided herein.

VI.
Contract Termination Provision

Notwithstanding any other provision of this Contract, this Contract may be terminated at any time by TOWN for any reason, with or without cause, by providing CONSULTANT thirty (30) days written notice of such termination. Upon receipt of such notice, CONSULTANT shall immediately terminate working on, placing orders or

entering into contracts for supplies, assistance, facilities or materials in connection with this Contract and shall proceed to promptly cancel all existing contracts insofar as they are related to this Contract.

VII.
Ownership of Documents

All materials and documents prepared or assembled by CONSULTANT under this Contract shall become the sole property of TOWN and shall be delivered to TOWN without restriction on future use. CONSULTANT shall provide documents in any commonly-used electronic file format as requested by TOWN. CONSULTANT may retain in its files copies of all drawings, specifications and all other pertinent information for the work. CONSULTANT shall have no liability for changes made to any materials or other documents by others subsequent to the completion of the Contract.

VIII.
Insurance

A. CONSULTANT shall, at its own expense, purchase, maintain and keep in force during the term of this Contract such insurance as set forth below. CONSULTANT shall not commence work under this Contract until CONSULTANT has obtained all the insurance required under this Contract and such insurance has been approved by TOWN, nor shall CONSULTANT allow any subcontractor to commence work on its own subcontract until all similar insurance of the subcontractor has been obtained and approved. All insurance policies provided under this Contract shall be written on an "occurrence" basis save and except the Professional Liability Insurance which may be written on a "claims-made" basis, provided that "tail coverage" or continuation coverage is provided. The insurance requirements shall remain in effect throughout the term of this Contract.

The CONSULTANT shall furnish to TOWN certificates of insurance executed by the insurer or its authorized agent stating coverages, limits, expiration dates and compliance with all applicable required provisions. Certificates shall reference the Project and be addressed as follows:

Town of Flower Mound
2121Cross Timbers Road
Flower Mound, TX 75028
Email: purchasing@flower-mound.com

The following policies and coverage shall be required:

1. Worker's Compensation Insurance (as required by law) with the policy endorsed to provide a waiver of subrogation as to TOWN; such policy to provide for Employers' Liability Insurance of not less than $100,000.00 for each accident, $100,000.00 disease-each employee, $500,000.00 disease-policy limit;

2. Commercial General Liability Insurance including, but not limited to, Premises/Operations, Personal & Advertising Injury, Products/Completed Operations, Independent Contractor's and Contractual Liability, including but not limited to coverage for all of the indemnification obligations of CONSULTANT under this Contract, and fully insuring CONSULTANT's liability for injury to or death of employees of TOWN and of third parties, extended to include personal injury liability coverage and for damage to property of third parties, with minimum combined single limits of $1,000,000 per occurrence, $1,000,000 Products/Completed Operations Aggregate and $1,000,000 general aggregate per occurrence. Coverage must be written on an occurrence form. The General Aggregate shall apply on a per project basis;

3. Business Automobile Liability Insurance, covering owned, hired and non-owned vehicles, with a minimum combined bodily injury and property damage limit of $1,000,000.00 per occurrence; and

4. Professional Liability Insurance: CONSULTANT shall obtain and maintain at all times during the prosecution of the work under this Contract professional liability insurance, which may be written on a claims made form provided that "tail coverage" or continuation coverage is provided. Limits of liability shall be $1,000,000.00 per claim, $1,000,000.00 annual aggregate. The coverage under this policy shall include a contractual liability endorsement.

If any of the foregoing insurance is written on a claims-made form, coverage shall be continuous (by renewal or extended reporting period) for not less than thirty-six (36) months following completion of the Contract and acceptance by the TOWN. All such insurance shall be purchased from an insurance company that meets a financial rating of B+VI or better as assigned by A.M. Best Company or equivalent.

B. Each insurance policy to be furnished by CONSULTANT shall include the following conditions by endorsement to the policy

1. The TOWN shall be named as an additional insured on the Commercial General Liability policy, by using endorsement CG2026 or broader;

2. The TOWN shall also be named as an additional insured as to all other applicable coverage save and except the Worker's Compensation Insurance and Professional Liability Insurance;

3. Each policy will require that thirty (30) days prior to the expiration, cancellation, nonrenewal or any material change in coverage, a notice thereof shall be given to TOWN by certified mail to:

Brian Waltenburg, P.E.,
Assistant Director of Engineering
Town of Flower Mound
2121 Cross Timbers Road
Flower Mound, Texas 75028
972-874-6234 Telephone

However, if the policy is canceled for nonpayment of premium, only ten (10) days advance written notice to TOWN is required. CONSULTANT shall also notify TOWN within twenty-four (24) hours after receipt of any notices of expiration, cancellation, nonrenewal or any material change in coverage it receives from its insurer(s);

4. The term "Owner" or "TOWN" shall include all authorities, boards, bureaus, commissions, divisions, departments and offices of TOWN and the individual members, employees and agents thereof in their official capacities, and/or while acting on behalf of TOWN;

5. The policy phrase "Other Insurance" shall not apply to TOWN where TOWN is an additional insured on the policy; and

6. All provisions of the Contract concerning liability, duty and standards of care together with the indemnification provision shall be underwritten by contractual liability coverage sufficient to include such obligations within applicable policies.

C. Concerning insurance to be furnished by CONSULTANT, it is a condition precedent to acceptability thereof that:

1. Any policy submitted shall not be subject to limitations, conditions or restrictions deemed inconsistent with the intent of the insurance requirements to be fulfilled by CONSULTANT. The TOWN's decision(s) thereon shall be final;

2. All policies are to be written through companies duly approved to transact that class of insurance in the State of Texas; and
3. All liability policies required herein, save and except Professional Liability Insurance, shall be written with an "occurrence" basis coverage trigger.

D. CONSULTANT agrees to the following:

1. CONSULTANT hereby waives subrogation rights for loss or damage to the extent same are covered by insurance. Insurers shall have no right of recovery or subrogation against TOWN, it being the intention that the insurance policies shall protect all parties to this Contract and be primary coverage for all losses covered by the policies;

2. Companies issuing the insurance policies and CONSULTANT shall have no recourse against TOWN for payment of any premiums, or assessments for any deductible, as all such premiums are the sole responsibility and risk of CONSULTANT;

3. Approval, disapproval or failure to act by TOWN regarding any insurance supplied by CONSULTANT (or any subcontractors) shall not relieve CONSULTANT of full responsibility or liability for damages and accidents as set forth in the Contract documents. Neither shall the insolvency or denial of liability by the insurance company exonerate CONSULTANT from liability; and

4. No special payments shall be made for any insurance that the CONSULTANT and subcontractors are required to carry; all are included in the contract price and the contract unit prices.

Any of the insurance policies required under this section may be written in combination with any of the others, where legally permitted, but none of the specified limits may be lowered thereby.

IX.
Right to Inspect Records

CONSULTANT agrees that TOWN shall have access to and the right to examine any directly pertinent books, documents, papers and records of CONSULTANT involving transactions relating to this Contract. CONSULTANT agrees that TOWN shall have access during normal working hours to all necessary CONSULTANT facilities and shall be provided adequate and appropriate work space in order to conduct audits in compliance with the provisions of this section. TOWN shall give CONSULTANT reasonable advance notice of intended audits.

If TOWN agrees that CONSULTANT may retain any subcontractors, CONSULTANT further agrees to include in subcontract(s), if any, a provision that any subcontractor or engineer agrees that TOWN shall have access to and the right to examine any directly pertinent books, documents, papers and records of such engineer or sub-contractor involving transactions to the subcontract, and further, that TOWN shall have access during normal working hours to all such engineer or sub-contractor facilities and shall be provided adequate and appropriate work space, in order to conduct audits in

compliance with the provisions of the paragraph. TOWN shall give any such engineer or sub-contractor reasonable advance notice of intended audits.

X.
Successors and Assigns

TOWN and CONSULTANT each bind themselves and their successors, executors, administrators and assigns to the other party to this Contract and to the successors, executors, administrators and assigns of such other party in respect to all covenants of this Contract. Neither TOWN nor CONSULTANT shall assign or transfer its interest herein without the prior written consent of the other.

XI.
CONSULTANT's Liability

Acceptance of the final plans by the TOWN shall not constitute nor be deemed a release of the responsibility and liability of CONSULTANT, its employees, associates, agents or consultants for the accuracy and competency of their designs, working drawings, specifications or other documents and work; nor shall such acceptance be deemed an assumption of responsibility by TOWN for any defect in the designs, working drawings, specifications or other documents and work; nor shall such acceptance be deemed an assumption of responsibility by TOWN for any defect in the designs, working drawings, specifications or other documents and work prepared by said CONSULTANT, its employees, associates, agents or sub-consultants. In this regard, CONSULTANT acknowledges that TOWN is retaining CONSULTANT to provide the services described herein, in reliance upon CONSULTANT's specialized expertise and experience, and in reliance thereon.

XII.
Indemnification

THE PROVISIONS OF THIS SECTION ARE SUBJECT TO THE LIMITATIONS OF TEXAS LOCAL GOVERNMENT CODE SECTION 271.904 AND SHALL BE CONSTRUED TO THAT EFFECT. THE CONSULTANT AS ALLOWED BY TEXAS LOCAL GOVERNMENT CODE SECTION 271.904 WILL STILL NAME TOWN AS ADDITIONAL INSURED IN ITS GENERAL LIABILITY POLICY AND PROVIDE ANY DEFENSE AS ALLOWED BY THE POLICY. CONSULTANT DOES HEREBY COVENANT AND CONTRACT TO WAIVE ALL CLAIMS, RELEASE, INDEMNIFY AND HOLD HARMLESS TOWN AND ALL OF ITS OFFICIALS, OFFICERS, AGENTS, EMPLOYEES AND INVITEES, IN BOTH THEIR PUBLIC AND PRIVATE CAPACITIES, FROM ANY AND ALL LIABILITY, CLAIMS, SUITS, DEMANDS OR CAUSES OF ACTION, INCLUDING ALL EXPENSES OF LITIGATION AND/OR SETTLEMENT, THAT MAY ARISE BY REASON OF DEATH OR INJURY TO PERSONS OR DAMAGE TO OR LOSS OF USE OF PROPERTY OCCASIONED BY ANY WRONGFUL INTENTIONAL ACT OR OMISSION OF CONSULTANT AS WELL AS ANY NEGLIGENT

OMISSION, ACT OR ERROR OF CONSULTANT, ITS OFFICIALS, OFFICERS, AGENTS, EMPLOYEES AND INVITEES, OR OTHER PERSONS FOR WHOM CONSULTANT IS LEGALLY LIABLE WITH REGARD TO THE PERFORMANCE OF THIS CONTRACT, REGARDLESS OF WHETHER SUCH LIABILITY, CLAIMS, SUITS, DEMANDS OR CAUSES OF ACTION IS THE RESULT IN PART OF TOWN'S NEGLIGENCE OR FAULT, AND CONSULTANT WILL, AT ITS OWN COST AND EXPENSE, DEFEND AND PROTECT TOWN AGAINST ANY AND ALL SUCH CLAIMS AND DEMANDS, INCLUDING PAYMENT OF TOWN'S REASONABLE ATTORNEYS' FEES. IN THE EVENT OF A CLAIM IS BROUGHT AGAINST TOWN, TOWN SHALL HAVE THE RIGHT TO RETAIN LEGAL COUNSEL OF ITS CHOOSING IN DEFENSE OF SUCH A CLAIM, AND SUCH ELECTION SHALL NOT RELIEVE CONTRACTOR OF ITS OBLIGATIONS UNDER THIS SECTION.

XIII.
Independent Contractor

CONSULTANT's status shall be that of an Independent Contractor and not an agent, servant, employee or representative of TOWN in the performance of this Contract. No term or provision of or act of CONSULTANT or TOWN under this Contract shall be construed as changing that status. CONSULTANT will have exclusive control of and the exclusive right to control the details of the work performed hereunder, and shall be liable for the acts and omissions of its officers, agents, employees, contractors, subcontractors and engineers and the doctrine of respondeat superior shall not apply as between TOWN and CONSULTANT, its officers, agents, employees, contractors, subcontractors and engineers, and nothing herein shall be construed as creating a partnership or joint enterprise between TOWN and CONSULTANT.

XIV.
Default

If at any time during the term of this Contract, CONSULTANT shall fail to commence the work in accordance with the provisions of this Contract, or fail to diligently provide services in an efficient, timely and careful manner and in strict accordance with the provisions of this Contract, or fail to use an adequate number or quality of personnel to complete the work or fail to perform any of its obligations under this Contract, then TOWN shall have the right, if CONSULTANT shall not cure any such default after thirty (30) days written notice thereof, to terminate this Contract for cause. Any such act by TOWN shall not be deemed a waiver of any other right or remedy of TOWN. If after exercising any such remedy due to CONSULTANT's nonperformance under this Contract, the cost to TOWN to complete the work to be performed under this Contract is in excess of that part of the Contract sum which has not theretofore been paid to CONSULTANT hereunder, CONSULTANT shall be liable for and shall reimburse TOWN for such excess.

TOWN's remedies for CONSULTANT's default or breach under this Contract shall be limited to one or more of the following remedies which may be exercised separately or in combination at TOWN's sole exclusive choice:

(a) Specific performance of the Contract;

(b) Re-performance of this Contract at no extra charge to TOWN; or

(c) Monetary damages.

XV.
Provisions Surviving Termination

The terms of Sections XII entitled Indemnification, and XVIII entitled Confidential Information shall survive termination of this Contract.

XVI.
Changes

TOWN may, from time to time, require changes in the scope of services to be performed under this Contract. Such changes as are mutually agreed upon by and between TOWN and CONSULTANT shall be incorporated by written modification to this Contract.

XVII.
Conflicts of Interest

CONSULTANT covenants and agrees that CONSULTANT and its associates and employees will have no interest, and will acquire no interest, either direct or indirect, which will conflict in any manner with the performance of the services called for under this Contract. All activities, investigations and other efforts made by CONSULTANT pursuant to this Contract will be conducted by employees, associates or subcontractors of CONSULTANT.

No officer or employee of TOWN shall have any personal, financial interest, direct or indirect, in this Contract nor have any direct financial interest in the sale to TOWN of any land, materials, supplies, or services under this Contract, except on behalf of TOWN as a TOWN officer or employee. Any violation of this prohibition with knowledge, expressed or implied, of the person or corporation contracting with TOWN shall render the Contract voidable by the Director or the Town Council.

XVIII.
Confidential Information

CONSULTANT hereby acknowledges and agrees that its representatives may have access to or otherwise receive information during the furtherance of its obligations in accordance with this Contract, which is of a confidential, non-public or proprietary

nature. CONSULTANT shall treat any such information received in full confidence and will not disclose or appropriate such Confidential Information for its own use or the use of any third party at any time during or subsequent to this Contract. As used herein, "Confidential Information" means all oral and written information concerning TOWN, its affiliates and subsidiaries, and all oral and written information concerning TOWN or its activities, that is of a non-public, proprietary or confidential nature including, without limitation, information pertaining to customer lists, services, methods, processes and operating procedures, together with all analyses, compilation, studies or other documents, whether prepared by CONSULTANT or others, which contain or otherwise reflect such information. The term "Confidential Information" shall not include such materials that are or become generally available to the public other than as a result of disclosure of CONSULTANT, or are required to be disclosed by a governmental authority or by law, as determined by TOWN's attorney.

XIX.
Notice Information

All notices and communications under this CONTRACT to be mailed to TOWN shall be sent to the address of TOWN's agent as follows, unless and until CONSULTANT is otherwise notified:

Brian Waltenburg, P.E.,
Assistant Director of Engineering
Town of Flower Mound
2121 Cross Timbers Road
Flower Mound, Texas 75028
972-874-6234 Telephone

Notices and communications to be mailed or delivered to CONSULTANT shall be sent to the address of CONSULTANT as follows, unless and until TOWN is otherwise notified:

Adrian Dongell, PE
Project Manager
Plummer
14755 Preston Road, Suite 420
Dallas, Texas 75254
972-996-5685 Telephone

Any notices and communications required to be given in writing by one party to the other shall be considered as having been given to the addressee on the date the notice or communication is posted, faxed or personally delivered by the sending party.

XX.
Applicable Law

The Contract is entered into subject to the Flower Mound Town Charter and ordinances of TOWN, as same may be amended from time to time, and is subject to and is to be construed, governed and enforced under all applicable State of Texas and federal laws. CONSULTANT will make any and all reports required per federal, state or local law including, but not limited to, proper reporting to the Internal Revenue Service, as required in accordance with CONSULTANT's income.

XXI.
Non-Discrimination

CONSULTANT shall not discriminate against any employee, applicant for employment, contractor, or sub-contractor because of the race, age, color, religion, sex, or national origin of such person. Engineer shall take affirmative action to insure that all such persons are treated equally during their employment without regard to their race, age, color, religion, sex, or national origin. If CONSULTANT fails to comply with the federal or state laws relating to Equal Employment Opportunity, it is agreed that TOWN, at its option, may do either or both of the following:

(a) Cancel, terminate, or suspend the Contract in whole or in part; or

(b) Declare CONSULTANT ineligible for future TOWN contracts until it is determined to be in compliance.

XXII.
Arbitration

CONSULTANT agrees not to enter into any agreement to arbitrate arising out of, or relating to, this Contract which would subject TOWN to being a party to any arbitration without TOWN's prior written consent.

XXIII.
No Waiver of Governmental Immunity

Nothing in this Contract shall be construed as a waiver of TOWN'S governmental immunity, or of any applicable limitation on damages, or any other legal protection or defense or privilege of TOWN, except to the extent expressly provided otherwise herein.

XXIV.
Severability

If any of the terms, provisions, covenants, conditions or any other part of this Contract are for any reason held to be invalid, void or unenforceable, the remainder of

the terms, provisions, covenants, conditions or any other part of this Contract shall remain in full force and effect and shall in no way be affected, impaired or invalidated.

XXV.
Remedies

No right or remedy granted herein or reserved to the parties is exclusive of any other right or remedy herein by law or equity provided or permitted; but each shall be cumulative of every other right or remedy given hereunder. No covenant or condition of this Contract may be waived without written consent of the parties. Forbearance or indulgence by either party shall not constitute a waiver of any covenant or condition to be performed pursuant to this Contract.

XXVI.
Entire Agreement

This Contract embodies the entire agreement of the parties hereto, superseding all oral or written previous and contemporaneous agreements between the parties relating to matters herein, and except as otherwise provided herein cannot be modified without written agreement of the parties.

XXVII.
Non-Waiver

It is further agreed that one (1) or more instances of forbearance by TOWN in the exercise of its rights herein shall in no way constitute a waiver thereof.

XXVIII.
Headings

The headings of this Contract are for the convenience of reference only and shall not affect any of the terms and conditions hereof in any manner.

XXIX.
Venue

Situs of this Contract is agreed to be Denton County, Texas, for all purposes, including performance and execution, and the parties to this Contract agree and covenant that this Contract will be enforceable in Flower Mound, Texas; and that if legal action is necessary to enforce this Contract, exclusive venue will lie in Denton County, Texas.

XXX.
No Third Party Beneficiary

For purposes of this Contract, including its intended operation and effect, the parties (TOWN and CONSULTANT) specifically agree and contract that: (1) the Contract only affects matters/disputes between the parties to this Contract, and is in no way intended by the parties to benefit or otherwise affect any third person or entity notwithstanding the fact that such third person or entity may be in contractual relationship with TOWN or CONSULTANT or both; and (2) the terms of this Contract are not intended to release, either by contract or operation of law, any third person or entity from obligations owing by them to either TOWN or CONSULTANT.

[The remainder of this page is left blank intentionally]

IN WITNESS WHEREOF, the parties hereto have caused this document to be executed as of the date first above written.

THE TOWN OF FLOWER MOUND, TEXAS

By:_____
The Honorable Steve Dixon
Mayor, Town of Flower Mound

Date Signed: _____

Attest:

_____
Town Secretary

CONSULTANT:
PLUMMER, INC.

By: Cletus R Martin
Name: PRINCIPAL, CONVEYANCE
Title:

Date Signed: 12/17/2020

State of Texas §
§
County of Tarrant §

This instrument was acknowledged before me on the 17 day of December, 2020, by Cletus R. Martin in his capacity as Principal of Plummer Associates, Inc, a Texas Corporation, known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged that he executed the same on behalf of and as the act of Authorized Representative.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, THIS THE December DAY OF 17, 2020.

Cylena Eason
Notary Public, State of Texas

My Commission Expires:

July 5, 2021

CYLENA EASON
Notary Public, State of Texas
Comm. Expires 07-05-2021
Notary ID 10553947

ATTACHMENT A
Town of Flower Mound
Lift Station Improvements and Decommissioning Phase III
Technical Memorandum
Scope of Services

Prepare a Design Basis Technical Memorandum for proposed improvements at the Kipling and Park Bend Lift Stations.

The ENGINEER agrees to furnish the TOWN the following specific services:

BASIC ENGINEERING SERVICES

ENGINEER agrees to perform BASIC ENGINEERING SERVICES for evaluating improvements to the Kipling and Park Bend lift stations including modifications to the influent gravity sewer lines and force mains, in accordance with the stipulations within this AGREEMENT. The ENGINEER shall perform BASIC ENGINEERING SERVICES necessary for the development of the PROJECT as follows:

A. EVALUATION PHASE SERVICES

1. **Meetings**
   a. Kickoff Meeting: Prepare for and facilitate kickoff meeting with the Town. Review project scope, schedule, and deliverables. Discuss overall objectives of the Design Basis Technical Memorandum (TM). It is understood that the Kickoff meeting will be conducted on the same day as the site investigation.
   b. Draft TM Review Meeting: Prepare for and facilitate one review meeting with the Town.

2. **Data Collection**
   a. A site investigation by the Plummer Team will be performed to determine the existing conditions and needs for Kipling and Park Bend Lift Stations. The site investigation will review existing lift station access and available construction working space. The Town will assist in access to the lift station sites.

3. **Technical Memorandum**
   a. The ENGINEER shall prepare a TM to evaluate improvements and modifications to the existing Kipling and Park Bend lift station sites. Proposed site modifications for Kipling Lift Station will be evaluated to increase wet well active volume to meet future modeled peak flow in accordance with TCEQ Chapter 217 regulations. The Park Bend Lift Station improvements will be reviewed and updated from the Lift Station Improvements and Decommissioning Phase II Project *Design Basis Memorandum*. The TM will consist of 30% site plan drawings,

recommendations for lift station improvements consisting of equipment and structure layout, recommendations for influent gravity line and force main modifications, electrical and instrumentation improvements, SCADA location, and proposed additional appurtenances for review and comment. The TM will be used as the basis for detail design for the subsequent design phase (not included in this contract). The Town will provide all available drawings or related submittal information for the lift station and associated piping.

b. Hydraulic analysis will be performed for each lift station to select pumps to meet the modeled peak flows and recommended updates from previous work completed under the Lift Station Improvements and Decommissioning Phase II project.
c. It is understood that the Town will provide their current and future peak inflow for Kipling and Park Bend lift stations from the Town's Wastewater Model. It is understood that the Town's gravity sewer system has the available capacity for the current and future peak flows modeled for the lift stations. Modeling and firm capacity analyses are considered Additional Services.
d. Provide an opinion of probable construction cost of the Project for budget purposes. The ENGINEER's projection of construction costs will be based on materials and labor prices prevailing at the time of preparation, without consideration of inflationary increases in cost. The ENGINEER does not warrant the accuracy of the opinion of probable construction cost.
e. Furnish up to four (4) sets of the TM to the TOWN. After receipt and following review, the TOWN's comments will be incorporated.

SPECIAL SERVICES

Special Services incidental to the Project, but not included within the scope of Basic Services covered above, which may be performed or arranged for separately by the OWNER, or may be added to the ENGINEER's responsibilities by mutual agreement and written authorization, include, but are not necessarily limited to the following:

Task 1 – Geotechnical Investigation

In the event previous Geotechnical Reports are unavailable or additional information is needed, conduct geotechnical investigation of the site as follows:

1. Geotechnical investigation will occur at Kipling Lift Station at the location identified by the ENGINEER and approved by the OWNER. A soil boring will be advanced based on surface conditions, pre-existing geotechnical data and other factors. Samples will be acquired and laboratory tests will be conducted to provide engineering data necessary for the design. Laboratory tests for each sample collected are anticipated to include:

    - Moisture content and soil identification
    - Liquid and plastic limit determinations

- Percent passing the No. 200 sieve
- Unconfined compression tests on soil
- Unit weight determinations
- Absorption pressure and/or one-point pressure swell test

2. The geotechnical budget allowance is based on one soil borings up to 35 feet total depth. The boring will be backfilled using cuttings and bentonite chips. Actual work required will be refined as the PROJECT progresses. Billing will be based on actual work performed by the geotechnical subcontractor.

Task 2 – Topographic Survey

Based on the site investigation, additional topographic survey of the Kipling Lift Station and McKamey Creek will be completed and generally include horizontal and vertical surface features; identified utilities, and drainage features; validation of record drawing dimensions, and more specially meet the survey scope of work listed below.

1. Prior to commencing any topographic fieldwork, surveyor will coordinate with, collect and review available public and private utility records within the project limits. The surveyor will submit a utility locate request for the project limits to Texas 811.
2. OWNER Owned Utilities shall be located and tied together accordingly (water, wastewater, storm sewer, and telephone/fiber) and associated appurtenances including but not limited to: manholes, cleanouts, meters, services, isolation valves, blow-offs, fire hydrants, inlets, junction boxes, headwalls, wingwalls, rip-rap aprons, and all other appurtenances. Survey shall denote size, material type, and flow direction as applicable. Accessible utility manholes/vaults shall be detailed identifying: structure size, material type, rim elevations, measure downs and corresponding flow line and top of pipe elevations for visible pipe wall penetrations. Upstream and downstream sanitary and storm sewer rim and invert data shall be included.
3. Right-of-Way (ROW) and Property Survey will locate and tie existing ROW, property lines and easements including type, size, volume and page, where applicable.
4. Survey will horizontally and vertically pick up surface features; drainage features; building locations; fences/retaining walls; trees and/or tree lines; roadways; railways; and OWNER, county and franchise utilities (as provided by Texas 811 utility locate request) within the project area.
5. The survey of trees shall include caliper size trunks approximately 6-in and larger. Based on the judgement of the ENGINEER the edge (tree line) of groups of trees or shrubs may be substituted for the survey of all trees within heavily wooded areas. In such areas the ENGINEER shall survey trees that exceed 12-in caliper size. Identification of tree species beyond that provided under Basic Services shall be provided as an Additional Service.
6. Methods and precision. Survey coordinates will be reported on the Texas State Plane Coordinate System, NAD83 (+/- 0.01 feet) with vertical coordinates reported in the NAVD 88 Vertical System (+/- 0.01 feet). Horizontal and vertical control will be set using post-processed GPS static methods. Data will be collected using RTK GPS and robotic total stations for the majority of the survey.

7. ENGINEER will research boundaries, subdivision plats, ROW and easements of which the surveyor has knowledge, which may affect the physical boundaries of the project. Easements with volume and page numbers will be identified and labeled in the survey submittal. Research will include public record resources, including but limited to: county records; TxDOT records; franchise utility records (gas, telephone, electric, cable and others); ownership or easement records as available; and title/abstracting reports from owner on proposed easement parent tracts.
8. The budget for survey established in this contract assumes full ground survey of the project limits. Billings will be based on actual work performed by the surveyor (whether ground survey, aerial survey or both).

ADDITIONAL SERVICES

Additional services to be performed by the ENGINEER, if authorized by the TOWN, which are not included in the above-described Basic Engineering Services, are described as follows:

1. Providing shop, mill, field or laboratory inspection of materials and equipment.
2. Assisting the TOWN in claims disputes with Contractor(s).
3. Sampling, testing or analysis beyond that specifically included in Basic Services.
4. Preparing copies of Computer-Aided Drafting (CAD) electronic databases, drawings, or files for the TOWN's use in a future CAD system.
5. Attending additional meetings as requested by TOWN.
6. Providing arrangements for all subsurface investigations, including but not limited to geotechnical borings, test pits, soil resistivity surveys, and other subsurface explorations beyond what is specifically included in basic services, and the TOWN making or arranging to have made the interpretations of data and reports resulting from such investigations.
7. Corps of Engineer Permitting, SWPPP, Traffic Control Plans, Subsurface Utility Engineering.
8. Providing architectural or landscape design.
9. Providing design and surveying services for easements.
10. Providing design services for modeling any of the lift stations.
11. Providing detailed design services.

12. Any additional services that may be required by the TOWN for completion of the project that are not included in the Basic or Special Services.

END OF DOCUMENT

ATTACHMENT B

COMPENSATION

Compensation for BASIC ENGINEERING SERVICES shall be paid by the OWNER to the ENGINEER as identified in Activity A above for the following lump sum amount.

Compensation for SPECIAL SERVICES, when authorized in writing by the OWNER shall be paid by the OWNER to the ENGINEER as identified in Special Services above and shall be based on the actual hours and costs in accordance with the fee schedule below.

Compensation for ADDITIONAL SERVICES, when authorized in writing by the OWNER shall be paid by the OWNER to the ENGINEER as identified in Additional Services above and shall be based on the actual hours and costs in accordance with the fee schedule below and shall not exceed $10,000.00. Additional services must be authorized in writing by the TOWN Time and materials billing for ENGINEER'S labor will be at the hourly rates provided in Attachment D. ENGINEER's direct expenses, including subcontractor expenses, will include a multiplier of 1.15

BASIC SERVICES		
Activity	**Task Description**	**Fee**
Activity A	Evaluation Services	$38,500.00
SPECIAL SERVICES		**Not to Exceed**
Task 1	Geotechnical Investigation	$3,500.00
Task 2	Survey	$4,200.00
ADDITIONAL SERVICES		**Not to Exceed**
	Additional Services	$2,500.00
	TOTAL FEE	**$48,700.00**

The ENGINEER may submit interim statements, not to exceed one per month, for partial payment for SERVICES rendered. The statements to the TOWN will be by task for the percentage of work actually completed. The TOWN shall make interim payments within 30 calendar days in response to ENGINEER's interim statements.

ATTACHMENT C

TIME OF COMPLETION

Upon Receipt of a notice to proceed, we anticipate the following:

	Calendar Days
Evaluation Services	120

ATTACHMENT D
PLUMMER ASSOCIATES, INC.
HOURLY FEE SCHEDULE
2020

Staff Description	Staff Code	2020 Rate
Admin Staff	A1 – A2	$ 90.00
Admin Staff III	A3	$ 93.00
Senior Admin Staff	A4	$ 120.00
Designer/Technician	C1-C2	$ 90.00
Designer/Technician III	C3	$ 115.00
Senior Designer/Technician	C4	$ 130.00
Construction Manager in Training *(CMIT)*	CM1	$ 90.00
Construction Manager in Training II	CM2	$ 105.00
Construction Manager in Training III	CM3	$ 135.00
Construction Manager IV	CM4	$ 145.00
Construction Manager V	CM5	$ 165.00
Construction Manager	CM6	$ 180.00
Senior Construction Manager	CM7	$ 240.00
Principal Construction Manager	CM8	$ 260.00
Resident Project Rep. I	RR1	$ 80.00
Resident Project Rep. II	RR2	$ 110.00
Resident Project Rep. III	RR3	$ 130.00
Lead Resident Project Rep.	RR4	$ 135.00
Field Tech I	LS1	$ 75.00
Field Tech II	LS2	$ 95.00
Survey Specialist I	LS3	$ 105.00
Survey Specialist II	LS4	$ 115.00
Survey Analyst	LS5	$ 135.00
Chief of Parties	LS6	$ 150.00
Engineer/Scientist Intern	ES0	$ 60.00
Engineer-in-Training/Scientist-in-Training	ES1	$ 115.00
Engineer-in-Training/Scientist-in-Training II	ES2	$ 120.00
Engineer-in-Training/Scientist-in-Training III	ES3	$ 125.00
Project Engineer/Scientist	ES4	$ 145.00
Senior Project Engineer/Scientist	ES5	$ 175.00
Project Manager	ES6	$ 200.00
Senior Project Manager	ES7	$ 240.00
Electrical Engineer in Training I	EE1	$ 95.00
Electrical Engineer in Training II	EE2	$ 120.00
Electrical Engineer in Training III	EE3	$ 125.00
Electrical Specialist	EE4	$ 145.00
Programmer	EE5	$125.00
Programmer II	EE6	$ 150.00
Senior Electrical Engineer	EE7	$ 280.00
Principal	ES8 - ES9	$ 305.00

Billing rates may be adjusted by up to 4 percent annually (at the beginning of each calendar year) during the term of this agreement.

A multiplier of 1.15 will be applied to all direct expenses.

A technology charge will be billed at $5 per labor hour.

TOWN COUNCIL AGENDA ITEM NO. 7

CONSENT ITEM

DATE: January 4, 2021

FROM: Eric Greaser, Fire Chief

ITEM: **Consider approval to ratify the expenditure of additional costs for parts and labor on Engine 502/Fleet #63000-05.**

BACKGROUND INFORMATION: Fire and Emergency Services equipment is integral in maintaining the level of quality service provided to the citizens of Flower Mound. The department was notified on 9/18/2020 that Engine 502 required an emergency replacement of its motor. Purchase Order 20612 was issued on 9/22/2020 for a new engine, parts and labor. This Purchase Order was based on an estimate from Inland Truck Parts in the amount of $46,264.43 to be paid from the FY19/20 budget. The final cost of this replacement, due to additional exhaust damage, was $54,187.73. This item is to request the expenditure be ratified to allow for the additional costs in the amount of $7,922.84.

FISCAL IMPACT: $54,187.73

Proposed Expenditure/(Revenue):	Account Number(s):
$46,264.43 FY19/20 $7,922.84 FY20/21	100-660-63000-4020

Finance Review by: Debra Wallace, Interim Town Manager /CFO

ATTACHMENTS:

1. Inland Truck Parts Estimate
2. Purchase Order 20612
3. Inland Truck Parts Invoice and Credit Memo

DRAFT MOTION: Move to approve as presented in the agenda caption.

ESTIMATE

Inland Truck Parts

4321 N. Elm
DENTON, TX 76207
(940) 381-2414

unit # 63000-05

SO #
Date 09/18/2020
Writer Kenneth Walters
Page 1 of 1

Invt:Cust 18:18 Cust acct# 012568 Cust PO#

Sold to:	Town Of Flower Mound 2121 Cross Timbers Road Flower Mound, TX 75028-2699	Ship to:	Town Of Flower Mound 2121 Cross Timbers Road Flower Mound, TX 75028-2699

Contact	BRIAN	Payment terms	Due on the 10th	Ship via	None Specified
Contact phone	(314) 620-4721	Primary phone	(972) 874-6432		Prepay and Add
Vehicle info:	Year/Make/Model	2016 / INTL / 7400		Cust Unit #	E502
	VIN/Short VIN	000000000HL722498 / HL722498		Miles/Hours	0 / 0
Repair Order no.	RO - RO-0125797	Operation #	1		
Condition	REPLACE ENGINE				
Correction	THIS BID IS FOR REPLACING THE ENGINE WITH A NEW ENGINE FROM INTERNATIAL WITH A WARRTY FROM INTERNATIONAL A TWO YEAR UNLIMITED MILAGE WARRANTY ON THE BASE ENGINE AND 12 MONTHS ON FUEL PUMP, INJECTOR, TURBOS, HIGH PRESSURE FUEL PUMP, SENSOR , ANDELECTRICAL HARNESS GLOW PLUGS AND BLOCK HEATERS				

Part number	Description	Ord	Del	List Price	Unit price	Ext. price
117_PART	IHC PART	1	1	0.00	30,030.00	30,030.00
5011171R91 ENGINE						
Core exchange						
117_PART	IHC PART	1	1	0.00	4,762.65	4,762.65
2513394C1 ATD MODULE						
Core exchange						
117_PART	IHC PART	1	1	0.00	5,136.98	5,136.98
Core exchange						
346_10000004633	DYNAPLEX 21C SHPD CK4 15W40 BULK - QT	32	32	8.40	5.15	164.80
263_PART_NC	MISC PART - NO CORE	1	1	0.00	500.00	500.00
MISC GASKETS						
Labor						5,520.00
Shop supplies						150.00

Total merchandise	40,744.43
Total cores	0.00
Total labor	5,520.00
Tax amount	0.00
Invoice total	$46,264.43

Received by

See warranties on reverse side

INLAND TRUCK PARTS COMPANY
"An Employee Owned Company"

1944 SINCE

From: 18 Canon Fax <18CanonFax@InlandTruck.com>
Sent: Friday, September 18, 2020 4:41 PM
To: Kenneth Walters <Kenneth.Walters@InlandTruck.com>
Subject: Attached Image

Attachment 2

TOWN OF FLOWER MOUND
2121 Cross Timbers Rd.
Flower Mound, TX 75028
Phone: (972) 874-6006
Fax: (972) 874-6478

PURCHASE ORDER

PO Number: 20612 **Date:** 09/22/2020

Vendor #: 2240

ISSUED TO: INLAND TRUCK PARTS CO INC
PO BOX 1489
DENTON, TX 76202-1489

SHIP TO: TOWN OF FLOWER MOUND
Attn:FLEET SERVICE CENTER
1101 DUNCAN LN
FLOWER MOUND, TX 75028

ITEM	UNITS	DESCRIPTION	PRICE	GL ACCOUNT NUMBER	AMOUNT
1	0	Engine 502 Unit 63000-05 Repair	0.00	100-660-63000-4020	46,264.43

Emergency Purchase Order parts and labor for Replacement of Engine E502 in Unit# 63000-05 (2017 Pierce Wildland Pumper) as specified on Inland Truck Parts Estimate dated 9/18/2020, and in accordance with Town of Flower Mound Purchase Order Terms and Conditions.

NOTE: Internal PO for 'records purposes only' as proof Emergency PO Procedure was followed and adhered to for audit purposes
IMPORTANT: If department gets final invoice prior to 9/30/2020, they need to contact Purchasing if the final price is different

Town of Flower Mound Contact:
Julie Taylor - Fleet Supervisor
Phone: 972-874-6434
Email: julie.lowery@flower-mound.com

Approved By: Sabrina R. Zakow

TOTAL 46,264.43

1. The Town of Flower Mound's complete Standard Terms & Conditions for Purchase Orders is available online at http://www.flower-mound.com/index.aspx?NID=582, and incorporated by reference.
2. Invoices shall be mailed to: Town of Flower Mound, Attn: Accounts Payable, 2121 Cross Timbers Road, Flower Mound, TX 75028, or emailed to accountspayable@flower-mound.com.
3. The Town of Flower Mound is exempt from paying federal excise and transportation taxes and Texas State or local sales and use taxes. ID# 75-1366210

Attachment 3

INLAND TRUCK PARTS & SERVICE
Employee Owned
inlandtruck.com

INVOICE

P.O. Box 1489
DENTON, TX 76202
(940) 381-2414

Invoice # IN-747335
SO # SO-1056800
Date 11/10/2020
Writer Kenneth Walters
Page 1 of 3

Invt:Cust 18:18 Cust acct# 012568 Cust PO# 20612

Sold to: Town Of Flower Mound
2121 Cross Timbers Road
Flower Mound, TX 75028-2699

Ship to: Town Of Flower Mound
2121 Cross Timbers Road
Flower Mound, TX 75028-2699

Contact BRIAN
Contact phone (314) 620-4721
Payment terms Due on the 10th
Primary phone (972) 874-6432
Ship via None Specified
Prepay and Add

Vehicle info:
Year/Make/Model 2016 / INTL / 7400
VIN/Short VIN 000000000HL722498 / HL722498
Cust Unit # E502
Miles/Hours 29679 / 2260

Repair Order no. RO - RO-0125797
Operation # 1

Condition REPLACE ENGINE

Correction THIS BID IS FOR REPLACING THE ENGINE WITH A NEW ENGINE FROM INTERNATIAL WITH A WARRTY FROM INTERNATIONAL A TWO YEAR UNLIMITED MILAGE WARRANTY ON THE BASE ENGINE AND 12 MONTHS ON FUEL PUMP, INJECTOR, TURBOS, HIGH PRESSURE FUEL PUMP, SENSOR , ANDELECTRICAL HARNESS GLOW PLUGS AND BLOCK HEATERS

WE REMOVED THE ENGINE AND REPLACED IT WITH NEW REBUILT UNIT FROM INTERNAITIONAL WITH A ONE YEAR WARRANTY AND WE HAD TO REPLACED THE MOTOR MOUNT THEY WERE BROKE AND THE EXHAUST COMPONTENTS THAT WERE BAD AND NEED TO BE REPLACED AND PARTS THAT WERE CONTAMINATED WITH ANTIFREEZE THAT NEED TO BE REPLACED AND WE GOT IT ALL IN THE TRUCK AND GET IT RUNNING AND WE HAD SOME CODES FOR SENSORS THAT WE INSTALELD IN TO THE NEW ENGING FROM THE OLD ENGINE AND THEN WE HAD TO TROUBLE SHOOT THAT AND GOT THOSE ISSUES FIXED AND NOW THE TRUCK RUNS GREAT AND NO CODES .

Part number	Description	Ord	Del	B/O	List Price	Unit price	Ext. price
117_PART	IHC PART	1	1	0	0.00	30,030.00	30,030.00
5011171R91 ENGINE							
Core exchange							
117_PART	IHC PART	1	1	0	0.00	6,290.30	6,290.30
2513394C1 ATD MODULE							
Core exchange							
117_PART	IHC PART	1	1	0	0.00	5,533.34	5,533.34
2513397c1 After treatment filter							
Core exchange							
346_10000004633	DYNAPLEX 21C SHPD CK4 15W40 BULK - QT	32	32	0	8.40	5.15	164.80
341_2888173	DOSER VALVE/INJECTOR	1	1	0	961.10	499.77	499.77

Attachment 3

INLAND TRUCK PARTS & SERVICE
Employee Owned
inlandtruck.com

INVOICE

P.O. Box 1489
DENTON, TX 76202
(940) 381-2414

Invoice # IN-747335
SO # SO-1056800
Date 11/10/2020
Writer Kenneth Walters
Page 2 of 3

Invt:Cust 18:18 Cust acct# 012568 Cust PO# 20612

117_2015983C1	EXHAUST WASHER	1	1	0	58.74	52.50	52.50
117_3900706C1	GASKET	1	1	0	20.36	10.13	10.13
341_2866636	EXHAUST GASKET 4"	2	2	0	30.48	19.51	39.02
341_2871960	DPF PRESSURE SENSOR	1	1	0	372.31	190.58	190.58
341_2880214	GASKET	1	1	0	20.95	15.75	15.75
341_PART_NC	CUMMINS - NO CORE	1	1	0	0.00	157.85	157.85
4387234 TUBE							
341_2880215	GASKET-EXH 5"	2	2	0	30.50	22.86	45.72
117_2512884C91	HYDROCARBON INJECTOR KIT	1	1	0	1,146.82	512.30	512.30
Core exchange							
117_7093618C92	KIT BREATHER	1	1	0	1,752.36	860.11	860.11
Core exchange							
117_2015983C1	EXHAUST WASHER	1	1	0	58.74	50.96	50.96
117_1841574C2	NUT, TURBO	3	3	0	40.79	23.56	70.68
117_1883182C1	GASKET, TURBO	1	1	0	114.58	56.24	56.24
117_1882825C1	stud-turbo mounting	3	3	0	38.41	18.86	56.58
117_3018016C2	GASKET HCI	1	1	0	199.47	97.91	97.91
117_3900706C1	GASKET	1	1	0	52.36	36.86	36.86
117_PART_NC	IHC PART	1	1	0	0.00	282.36	282.36
5461627 TEMP SENSOR							
117_PART_NC	IHC PART	1	1	0	0.00	14.56	14.56
709656C3 HOSE							
117_1841296C1	GASKET	1	1	0	57.77	28.35	28.35
117_591597C2	GASKET	1	1	0	24.21	15.96	15.96
117_7092217C1	FITTING	1	1	0	406.08	199.31	199.31
117_1812559C1	SEAL	1	1	0	13.28	15.65	15.65
117_690835C1	CLAMP	1	1	0	24.52	22.45	22.45
117_3549169C2	MOUNT	2	2	0	950.18	306.56	613.12
117_1664723C3	INSULATR	2	2	0	81.95	116.32	232.64
117_1664726C2	INSULATOR	2	2	0	37.86	35.86	71.72
507_750-7301	SUCTION PORT SEALING WASHER	1	1	0	4.86	3.60	3.60
507_750-7300	DISCHARGE SEALING WASHER	1	1	0	4.82	3.57	3.57
117_1898084C1	STUD JUNCTION BLOCK	1	1	0	82.77	40.62	40.62

INLAND TRUCK PARTS & SERVICE
Employee Owned
inlandtruck.com

P.O. Box 1489
DENTON, TX 76202
(940) 381-2414

INVOICE

Invoice # IN-747335
SO # SO-1056800
Date 11/10/2020
Writer Kenneth Walters
Page 3 of 3

Invt:Cust 18:18 **Cust acct#** 012568 **Cust PO#** 20612

341_4326873RX	NOX SENSOR	1	1	0	1,308.25	800.13	800.13
Core exchange							
341_5289960	AIR TUBE	1	1	0	313.24	173.97	173.97
117_3558668C3	ELBOW HOSE	1	1	0	167.84	82.38	82.38
117_6083923C1	LOWER HOSE	1	1	0	123.65	60.69	60.69
117_PART_NC	IHC PART	1	1	0	0.00	110.32	110.32
1877109C92 FITTING							
341_PART_NC	CUMMINS - NO CORE	1	1	0	0.00	1,778.80	1,778.80
5302206 OUTLET							
341_2871452	DPF GASKET	4	4	0	79.16	43.96	175.84
117_3006082C1	VALVE ASSY METERING UNIT	1	1	0	1,694.36	745.17	745.17
Core exchange							
346_10000002464	ROTELLA LL PREMIX AF(BULK)	10	10	0	34.72	19.87	198.70
Labor							5,520.00
Shop supplies							150.00

Total merchandise	50,591.31
Total cores	0.00
Total labor	5,520.00
Tax amount	0.00
Invoice total	$56,111.31

Received by

See warranties on reverse side

Attachment 3

INLAND TRUCK PARTS & SERVICE

Employee Owned

inlandtruck.com

CREDIT MEMO

P.O. Box 1489
DENTON, TX 76202
(940) 381-2414

Invoice # CM-058896
SO # SO-1057705
Date 11/10/2020
Writer Kenneth Walters
Page 1 of 1

Invt:Cust 18:18 **Cust acct#** 012568 **Cust PO#** 20612

Sold to:	Town Of Flower Mound 2121 Cross Timbers Road Flower Mound, TX 75028-2699	**Ship to:**	Town Of Flower Mound 2121 Cross Timbers Road Flower Mound, TX 75028-2699

Contact
Contact phone
Payment terms Due on the 10th
Primary phone (972) 874-6432
Ship via None Specified
Prepay and Add

Part number	Description	Ord	Del	B/O	List Price	Unit price	Ext. price
117_PART	IHC PART	1	1	0	0.00	4,762.65	4,762.65
2513394C1 ATD MODULE							
COR_117_PARTC	117 PART CORE	1	1	0	0.00	1,900.00	1,900.00
117_PART	IHC PART	-1	-1	0	0.00	6,290.30	(6,290.30)
2513394C1 ATD MODULE							
COR_117_PARTC	117 PART CORE	-1	-1	0	0.00	1,900.00	(1,900.00)
117_PART	IHC PART	1	1	0	0.00	5,136.98	5,136.98
2513397C1 AFTER TREAMENT FILTER							
COR_117_PARTC	117 PART CORE	1	1	0	0.00	1,900.00	1,900.00
117_PART	IHC PART	-1	-1	0	0.00	5,533.34	(5,533.34)
2513397C1 AFTER TREAMENT FILTER							
COR_117_PARTC	117 PART CORE	-1	-1	0	0.00	1,900.00	(1,900.00)

Total merchandise	(1,924.01)
Total cores	0.00
Total labor	0.00
Tax amount	0.00
Invoice total	($1,924.01)

Received by _____

See warranties on reverse side

TOWN COUNCIL AGENDA ITEM NO. 8

CONSENT ITEM

DATE: January 4, 2021

FROM: Brian Waltenburg, P.E., Assistant Director of Engineering

ITEM: **Consider approval of a Professional Services Agreement for the design phase services for the Oak Street Lift Station and Force Main Phase IV project, with Kimley-Horn and Associates, Inc., for $330,500.00; and authorization for the Mayor to execute same on behalf of the Town.**

BACKGROUND INFORMATION: Phase IV of the Oak Street Lift Station and Force Main includes improvements to the lift station to increase firm pumping capacity by replacing pumps, installation of electrical infrastructure and backup generator properly sized for the additional electrical load, & upsized mechanical discharge piping and valving.

The project is included in the wastewater master plan as a required project to meet increased wastewater flow projection.

BOARD REVIEW/CITIZEN FEEDBACK: N/A

ALTERNATIVES/OPTIONS: A decision to not approve the proposed agreement would result in sanitary sewer overflows. Town would be open to enforcement action by the Texas Commission on Environmental Quality (TCEQ) should sewage spill from a lift station.

FISCAL IMPACT: $330,500

Proposed Expenditure/(Revenue):	Account Number(s):
$330,500.00	630-970-90386

Finance Review by: Debra Wallace, Interim Town Manager /CFO DW

Total project cost is $2.300,000. Funding sources are:

- Impact Fees $ 150,000
- Utility Debt $2,150,000

LEGAL REVIEW: The Town's standard Professional Services Agreement form documents prepared by Taylor, Olson, Adkins, Sralla, & Elam L.L.P., were used to draft this agreement. No alteration to the legal content of this form document was made in preparation of this Professional Services Agreement.

ATTACHMENTS:

1. Professional Services Agreement

DRAFT MOTION: Move to approve as presented in the agenda caption.

Attachment 1

THE STATE OF TEXAS §
COUNTY OF DENTON §

PROFESSIONAL SERVICES AGREEMENT WITH KIMLEY-HORN AND ASSOCIATES, INC.

This contract is entered into on this 4th day of January, 2021, by and between the **TOWN OF FLOWER MOUND, TEXAS,** a municipal corporation located in Denton County, Texas, (hereinafter referred to as "TOWN"), acting by and through its Mayor, and **Kimley-Horn and Associates, Inc.,** ("hereinafter referred to as "CONSULTANT") whose address is 13455 Noel Road, Two Galleria Office Tower, Suite 700, Dallas, TX 75240.

RECITALS

WHEREAS, TOWN desires to obtain professional services from CONSULTANT relative to surveying, design and providing construction documents for the Oak Street Lift Station and Force Main Phase IV project; and

WHEREAS, CONSULTANT is an engineering firm qualified to provide such services and is willing to undertake the performance of such services for the TOWN in exchange for fees hereinafter specified;

TERMS OF AGREEMENT

NOW, THEREFORE, in consideration of the covenants and agreements hereinafter contained and subject to the terms and conditions hereinafter stated, the parties hereto do mutually agree as follows:

I.
Employment of Consultant

CONSULTANT will perform as an independent contractor all services under this Contract to the prevailing professional standards consistent with the level of care and skill ordinarily exercised by members of the architectural, engineering and planning professions, both public and private, currently practicing in the same locality under similar conditions including but not limited to the exercise of reasonable, informed judgments and prompt, timely action. If CONSULTANT has represented or is representing that it has special expertise in one or more areas to be utilized in this Contract, then CONSULTANT agrees to perform those special expertise services to the appropriate local, regional and national professional standards.

II.
Scope of Services

CONSULTANT shall perform such services as are necessary to provide services for the Oak Street Lift Station and Force Main Phase IV project specifically including, but not necessarily limited to, the tasks enumerated more fully in Attachment "A" hereto entitled "Scope of Work" (hereafter referred to as the "Project"). Attachment "A" is hereby incorporated herein by reference and made a part hereof as if written word for word. However, in case of conflict in the language of Attachment "A" and this Contract, the terms and conditions of this Contract shall be final and binding upon both parties hereto.

III.
Payment for Services

Total payment for services described herein shall be a sum not to exceed Three Hundred Thirty Thousand Five Hundred and No/100 Dollars ($330,500). This total payment for services includes CONSULTANT's ordinary expenses. Additional expenses and charges, which are extraordinary in nature, must be approved in advance by TOWN in writing signed by the parties. Such extraordinary expenses may be paid as incurred and billed to the TOWN pursuant to this Contract over and above the total payment amount identified in this provision. Any extraordinary expenses or charges not approved in writing in advance by the TOWN shall remain the sole responsibility of the CONSULTANT. If CONSULTANT retains any subcontractors to perform any of the work, CONSULTANT acknowledges that payments to such subcontractors are due and payable in accordance with the provisions of Texas Government Code Section 2251.022, and that interest on unpaid and overdue amounts shall accrue in accordance with Texas Government Code Section 2251.025.

CONSULTANT will bill TOWN on a lump sum basis in accordance with Attachment "B"; provided however that this Contract shall control in the event of any conflict between the language in Attachment "B" and the language in this Contract. If additional services, trips or expenses are requested, CONSULTANT will not provide such additional services until authorized by TOWN in writing to proceed. The scope of services shall be strictly limited. TOWN shall not be required to pay any amount in excess of the amount identified in the preceding paragraph unless TOWN shall have approved in writing in advance (prior to the performance of additional work) the payment of additional amounts.

Each month CONSULTANT will submit to TOWN an invoice for supporting the percentage for which payment is sought by CONSULTANT during the previous month for which payment is sought. Each invoice shall also state the percentage of work completed on the Project, the total of the current invoice amount and a running total balance for the Project to date.

Assuming that TOWN agrees with the invoice, that TOWN has not determined any of the work to be unsatisfactory, or that TOWN otherwise does not dispute any of the amounts billed, TOWN shall make payments in the amount shown by CONSULTANT's approved monthly statements and other documentation submitted in compliance with the Texas Prompt Payment Act, Texas Government Code Chapter 2251.

Nothing contained in this Contract shall require TOWN to pay for any work that TOWN has determined has not been successfully completed or is unsatisfactory as determined by TOWN, or which is not otherwise submitted in compliance with the terms of this Contract, nor shall failure to withhold payment pursuant to the provisions of this section constitute a waiver of any right, at law or in equity, which TOWN may have if CONSULTANT is in default, including the right to bring legal action for damages or for specific performance of this Contract. Waiver of any default under this Contract shall not be deemed a waiver of any subsequent default.

IV.
Revisions of the Scope of Services

TOWN reserves the right to revise or expand the scope of services after due approval by TOWN as TOWN may deem necessary, but in such event TOWN shall pay CONSULTANT equitable compensation for such services. In any event, when CONSULTANT is directed to revise or expand the scope of services under this Section of the Contract, CONSULTANT shall provide TOWN a written proposal for the entire costs involved in performing such additional services. Prior to CONSULTANT undertaking any revised or expanded services as directed by TOWN under this Contract, TOWN must authorize in writing the nature and scope of the services and accept the method and amount of compensation and the time involved in all phases of the Project.

It is expressly understood and agreed by CONSULTANT that any compensation not specified in Paragraph III herein above may require Flower Mound Town Council approval and is subject to the current budget year limitations.

V.
Term

This Contract shall begin on the date first written above, and shall terminate when TOWN has approved the Project as being final or otherwise terminates this Contract as provided herein.

VI.
Contract Termination Provision

Notwithstanding any other provision of this Contract, this Contract may be terminated at any time by TOWN for any reason, with or without cause, by providing CONSULTANT thirty (30) days written notice of such termination. Upon receipt of such

notice, CONSULTANT shall immediately terminate working on, placing orders or entering into contracts for supplies, assistance, facilities or materials in connection with this Contract and shall proceed to promptly cancel all existing contracts insofar as they are related to this Contract.

VII.
Ownership of Documents

All materials and documents prepared or assembled by CONSULTANT under this Contract shall become the sole property of TOWN and shall be delivered to TOWN without restriction on future use. CONSULTANT shall provide documents in any commonly-used electronic file format as requested by TOWN. CONSULTANT may retain in its files copies of all drawings, specifications and all other pertinent information for the work. CONSULTANT shall have no liability for changes made to any materials or other documents by others subsequent to the completion of the Contract.

VIII.
Insurance

A. CONSULTANT shall, at its own expense, purchase, maintain and keep in force during the term of this Contract such insurance as set forth below. CONSULTANT shall not commence work under this Contract until CONSULTANT has obtained all the insurance required under this Contract and such insurance has been approved by TOWN, nor shall CONSULTANT allow any subcontractor to commence work on its own subcontract until all similar insurance of the subcontractor has been obtained and approved. All insurance policies provided under this Contract shall be written on an "occurrence" basis save and except the Professional Liability Insurance which may be written on a "claims-made" basis, provided that "tail coverage" or continuation coverage is provided. The insurance requirements shall remain in effect throughout the term of this Contract.

The CONSULTANT shall furnish to TOWN certificates of insurance executed by the insurer or its authorized agent stating coverages, limits, expiration dates and compliance with all applicable required provisions. Certificates shall reference the Project and be addressed as follows:

Town of Flower Mound
2121Cross Timbers Road
Flower Mound, TX 75028
Email: purchasing@flower-mound.com

The following policies and coverage shall be required:

1. Worker's Compensation Insurance (as required by law) with the policy endorsed to provide a waiver of subrogation as to TOWN; such policy to provide for Employers' Liability Insurance of not less than $100,000.00 for each accident, $100,000.00 disease-each employee, $500,000.00 disease-policy limit;

2. Commercial General Liability Insurance including, but not limited to, Premises/Operations, Personal & Advertising Injury, Products/Completed Operations, Independent Contractor's and Contractual Liability, including but not limited to coverage for all of the indemnification obligations of CONSULTANT under this Contract, and fully insuring CONSULTANT's liability for injury to or death of employees of TOWN and of third parties, extended to include personal injury liability coverage and for damage to property of third parties, with minimum combined single limits of $1,000,000 per occurrence, $1,000,000 Products/Completed Operations Aggregate and $1,000,000 general aggregate per occurrence. Coverage must be written on an occurrence form. The General Aggregate shall apply on a per project basis;

3. Business Automobile Liability Insurance, covering owned, hired and non-owned vehicles, with a minimum combined bodily injury and property damage limit of $1,000,000.00 per occurrence; and

4. Professional Liability Insurance: CONSULTANT shall obtain and maintain at all times during the prosecution of the work under this Contract professional liability insurance, which may be written on a claims made form provided that "tail coverage" or continuation coverage is provided. Limits of liability shall be $1,000,000.00 per claim, $1,000,000.00 annual aggregate. The coverage under this policy shall include a contractual liability endorsement.

If any of the foregoing insurance is written on a claims-made form, coverage shall be continuous (by renewal or extended reporting period) for not less than thirty-six (36) months following completion of the Contract and acceptance by the TOWN. All such insurance shall be purchased from an insurance company that meets a financial rating of B+VI or better as assigned by A.M. Best Company or equivalent.

B. Each insurance policy to be furnished by CONSULTANT shall include the following conditions by endorsement to the policy

1. The TOWN shall be named as an additional insured on the Commercial General Liability policy, by using endorsement CG2026 or broader;

2. The TOWN shall also be named as an additional insured as to all other applicable coverage save and except the Worker's Compensation Insurance and Professional Liability Insurance;

3. Each policy will require that thirty (30) days prior to the expiration, cancellation, nonrenewal or any material change in coverage, a notice thereof shall be given to TOWN by certified mail to:

Brian Waltenburg, P.E.,
Assistant Director of Engineering
Town of Flower Mound
2121 Cross Timbers Road
Flower Mound, Texas 75028
972-874-6234 Telephone

However, if the policy is canceled for nonpayment of premium, only ten (10) days advance written notice to TOWN is required. CONSULTANT shall also notify TOWN within twenty-four (24) hours after receipt of any notices of expiration, cancellation, nonrenewal or any material change in coverage it receives from its insurer(s);

4. The term "Owner" or "TOWN" shall include all authorities, boards, bureaus, commissions, divisions, departments and offices of TOWN and the individual members, employees and agents thereof in their official capacities, and/or while acting on behalf of TOWN;

5. The policy phrase "Other Insurance" shall not apply to TOWN where TOWN is an additional insured on the policy; and

6. All provisions of the Contract concerning liability, duty and standards of care together with the indemnification provision shall be underwritten by contractual liability coverage sufficient to include such obligations within applicable policies.

C. Concerning insurance to be furnished by CONSULTANT, it is a condition precedent to acceptability thereof that:

1. Any policy submitted shall not be subject to limitations, conditions or restrictions deemed inconsistent with the intent of the insurance requirements to be fulfilled by CONSULTANT. The TOWN's decision(s) thereon shall be final;

2. All policies are to be written through companies duly approved to transact that class of insurance in the State of Texas; and
3. All liability policies required herein, save and except Professional Liability Insurance, shall be written with an "occurrence" basis coverage trigger.

D. CONSULTANT agrees to the following:

1. CONSULTANT hereby waives subrogation rights for loss or damage to the extent same are covered by insurance. Insurers shall have no right of recovery or subrogation against TOWN, it being the intention that the insurance policies shall protect all parties to this Contract and be primary coverage for all losses covered by the policies;

2. Companies issuing the insurance policies and CONSULTANT shall have no recourse against TOWN for payment of any premiums, or assessments for any deductible, as all such premiums are the sole responsibility and risk of CONSULTANT;

3. Approval, disapproval or failure to act by TOWN regarding any insurance supplied by CONSULTANT (or any subcontractors) shall not relieve CONSULTANT of full responsibility or liability for damages and accidents as set forth in the Contract documents. Neither shall the insolvency or denial of liability by the insurance company exonerate CONSULTANT from liability; and

4. No special payments shall be made for any insurance that the CONSULTANT and subcontractors are required to carry; all are included in the contract price and the contract unit prices.

Any of the insurance policies required under this section may be written in combination with any of the others, where legally permitted, but none of the specified limits may be lowered thereby.

IX.
Right to Inspect Records

CONSULTANT agrees that TOWN shall have access to and the right to examine any directly pertinent books, documents, papers and records of CONSULTANT involving transactions relating to this Contract. CONSULTANT agrees that TOWN shall have access during normal working hours to all necessary CONSULTANT facilities and shall be provided adequate and appropriate work space in order to conduct audits in compliance with the provisions of this section. TOWN shall give CONSULTANT reasonable advance notice of intended audits.

If TOWN agrees that CONSULTANT may retain any subcontractors, CONSULTANT further agrees to include in subcontract(s), if any, a provision that any subcontractor or engineer agrees that TOWN shall have access to and the right to examine any directly pertinent books, documents, papers and records of such engineer or sub-contractor involving transactions to the subcontract, and further, that TOWN shall have access during normal working hours to all such engineer or sub-contractor facilities and shall be provided adequate and appropriate work space, in order to conduct audits in

compliance with the provisions of the paragraph. TOWN shall give any such engineer or sub-contractor reasonable advance notice of intended audits.

X.
Successors and Assigns

TOWN and CONSULTANT each bind themselves and their successors, executors, administrators and assigns to the other party to this Contract and to the successors, executors, administrators and assigns of such other party in respect to all covenants of this Contract. Neither TOWN nor CONSULTANT shall assign or transfer its interest herein without the prior written consent of the other.

XI.
CONSULTANT's Liability

Acceptance of the final plans by the TOWN shall not constitute nor be deemed a release of the responsibility and liability of CONSULTANT, its employees, associates, agents or consultants for the accuracy and competency of their designs, working drawings, specifications or other documents and work; nor shall such acceptance be deemed an assumption of responsibility by TOWN for any defect in the designs, working drawings, specifications or other documents and work; nor shall such acceptance be deemed an assumption of responsibility by TOWN for any defect in the designs, working drawings, specifications or other documents and work prepared by said CONSULTANT, its employees, associates, agents or sub-consultants. In this regard, CONSULTANT acknowledges that TOWN is retaining CONSULTANT to provide the services described herein, in reliance upon CONSULTANT's specialized expertise and experience, and in reliance thereon.

XII.
Indemnification

THE PROVISIONS OF THIS SECTION ARE SUBJECT TO THE LIMITATIONS OF TEXAS LOCAL GOVERNMENT CODE SECTION 271.904 AND SHALL BE CONSTRUED TO THAT EFFECT. THE CONSULTANT AS ALLOWED BY TEXAS LOCAL GOVERNMENT CODE SECTION 271.904 WILL STILL NAME TOWN AS ADDITIONAL INSURED IN ITS GENERAL LIABILITY POLICY AND PROVIDE ANY DEFENSE AS ALLOWED BY THE POLICY. CONSULTANT DOES HEREBY COVENANT AND CONTRACT TO WAIVE ALL CLAIMS, RELEASE, INDEMNIFY AND HOLD HARMLESS TOWN AND ALL OF ITS OFFICIALS, OFFICERS, AGENTS, EMPLOYEES AND INVITEES, IN BOTH THEIR PUBLIC AND PRIVATE CAPACITIES, FROM ANY AND ALL LIABILITY, CLAIMS, SUITS, DEMANDS OR CAUSES OF ACTION, INCLUDING ALL EXPENSES OF LITIGATION AND/OR SETTLEMENT, THAT MAY ARISE BY REASON OF DEATH OR INJURY TO PERSONS OR DAMAGE TO OR LOSS OF USE OF PROPERTY OCCASIONED BY ANY WRONGFUL INTENTIONAL ACT OR OMISSION OF CONSULTANT AS WELL AS ANY NEGLIGENT

OMISSION, ACT OR ERROR OF CONSULTANT, ITS OFFICIALS, OFFICERS, AGENTS, EMPLOYEES AND INVITEES, OR OTHER PERSONS FOR WHOM CONSULTANT IS LEGALLY LIABLE WITH REGARD TO THE PERFORMANCE OF THIS CONTRACT, REGARDLESS OF WHETHER SUCH LIABILITY, CLAIMS, SUITS, DEMANDS OR CAUSES OF ACTION IS THE RESULT IN PART OF TOWN'S NEGLIGENCE OR FAULT, AND CONSULTANT WILL, AT ITS OWN COST AND EXPENSE, DEFEND AND PROTECT TOWN AGAINST ANY AND ALL SUCH CLAIMS AND DEMANDS, INCLUDING PAYMENT OF TOWN'S REASONABLE ATTORNEYS' FEES. IN THE EVENT OF A CLAIM IS BROUGHT AGAINST TOWN, TOWN SHALL HAVE THE RIGHT TO RETAIN LEGAL COUNSEL OF ITS CHOOSING IN DEFENSE OF SUCH A CLAIM, AND SUCH ELECTION SHALL NOT RELIEVE CONTRACTOR OF ITS OBLIGATIONS UNDER THIS SECTION.

XIII.
Independent Contractor

CONSULTANT's status shall be that of an Independent Contractor and not an agent, servant, employee or representative of TOWN in the performance of this Contract. No term or provision of or act of CONSULTANT or TOWN under this Contract shall be construed as changing that status. CONSULTANT will have exclusive control of and the exclusive right to control the details of the work performed hereunder, and shall be liable for the acts and omissions of its officers, agents, employees, contractors, subcontractors and engineers and the doctrine of respondeat superior shall not apply as between TOWN and CONSULTANT, its officers, agents, employees, contractors, subcontractors and engineers, and nothing herein shall be construed as creating a partnership or joint enterprise between TOWN and CONSULTANT.

XIV.
Default

If at any time during the term of this Contract, CONSULTANT shall fail to commence the work in accordance with the provisions of this Contract, or fail to diligently provide services in an efficient, timely and careful manner and in strict accordance with the provisions of this Contract, or fail to use an adequate number or quality of personnel to complete the work or fail to perform any of its obligations under this Contract, then TOWN shall have the right, if CONSULTANT shall not cure any such default after thirty (30) days written notice thereof, to terminate this Contract for cause. Any such act by TOWN shall not be deemed a waiver of any other right or remedy of TOWN. If after exercising any such remedy due to CONSULTANT's nonperformance under this Contract, the cost to TOWN to complete the work to be performed under this Contract is in excess of that part of the Contract sum which has not theretofore been paid to CONSULTANT hereunder, CONSULTANT shall be liable for and shall reimburse TOWN for such excess.

TOWN's remedies for CONSULTANT's default or breach under this Contract shall be limited to one or more of the following remedies which may be exercised separately or in combination at TOWN's sole exclusive choice:

(a) Specific performance of the Contract;

(b) Re-performance of this Contract at no extra charge to TOWN; or

(c) Monetary damages.

XV.
Provisions Surviving Termination

The terms of Sections XII entitled Indemnification, and XVIII entitled Confidential Information shall survive termination of this Contract.

XVI.
Changes

TOWN may, from time to time, require changes in the scope of services to be performed under this Contract. Such changes as are mutually agreed upon by and between TOWN and CONSULTANT shall be incorporated by written modification to this Contract.

XVII.
Conflicts of Interest

CONSULTANT covenants and agrees that CONSULTANT and its associates and employees will have no interest, and will acquire no interest, either direct or indirect, which will conflict in any manner with the performance of the services called for under this Contract. All activities, investigations and other efforts made by CONSULTANT pursuant to this Contract will be conducted by employees, associates or subcontractors of CONSULTANT.

No officer or employee of TOWN shall have any personal, financial interest, direct or indirect, in this Contract nor have any direct financial interest in the sale to TOWN of any land, materials, supplies, or services under this Contract, except on behalf of TOWN as a TOWN officer or employee. Any violation of this prohibition with knowledge, expressed or implied, of the person or corporation contracting with TOWN shall render the Contract voidable by the Director or the Town Council.

XVIII.
Confidential Information

CONSULTANT hereby acknowledges and agrees that its representatives may have access to or otherwise receive information during the furtherance of its obligations in accordance with this Contract, which is of a confidential, non-public or proprietary

nature. CONSULTANT shall treat any such information received in full confidence and will not disclose or appropriate such Confidential Information for its own use or the use of any third party at any time during or subsequent to this Contract. As used herein, "Confidential Information" means all oral and written information concerning TOWN, its affiliates and subsidiaries, and all oral and written information concerning TOWN or its activities, that is of a non-public, proprietary or confidential nature including, without limitation, information pertaining to customer lists, services, methods, processes and operating procedures, together with all analyses, compilation, studies or other documents, whether prepared by CONSULTANT or others, which contain or otherwise reflect such information. The term "Confidential Information" shall not include such materials that are or become generally available to the public other than as a result of disclosure of CONSULTANT, or are required to be disclosed by a governmental authority or by law, as determined by TOWN's attorney.

XIX.
Notice Information

All notices and communications under this CONTRACT to be mailed to TOWN shall be sent to the address of TOWN's agent as follows, unless and until CONSULTANT is otherwise notified:

Brian Waltenburg, P.E.,
Assistant Director of Engineering
Town of Flower Mound
2121 Cross Timbers Road
Flower Mound, Texas 75028
972-874-6234 Telephone

Notices and communications to be mailed or delivered to CONSULTANT shall be sent to the address of CONSULTANT as follows, unless and until TOWN is otherwise notified:

Kyle Sanderson, PE
Kimley-Horn
13455 Noel Road
Two Galleria Office Tower
Suite 700
Dallas, TX 75240
972-770-3033 Telephone

Any notices and communications required to be given in writing by one party to the other shall be considered as having been given to the addressee on the date the notice or communication is posted, faxed or personally delivered by the sending party.

XX.
Applicable Law

The Contract is entered into subject to the Flower Mound Town Charter and ordinances of TOWN, as same may be amended from time to time, and is subject to and is to be construed, governed and enforced under all applicable State of Texas and federal laws. CONSULTANT will make any and all reports required per federal, state or local law including, but not limited to, proper reporting to the Internal Revenue Service, as required in accordance with CONSULTANT's income.

XXI.
Non-Discrimination

CONSULTANT shall not discriminate against any employee, applicant for employment, contractor, or sub-contractor because of the race, age, color, religion, sex, or national origin of such person. Engineer shall take affirmative action to insure that all such persons are treated equally during their employment without regard to their race, age, color, religion, sex, or national origin. If CONSULTANT fails to comply with the federal or state laws relating to Equal Employment Opportunity, it is agreed that TOWN, at its option, may do either or both of the following:

(a) Cancel, terminate, or suspend the Contract in whole or in part; or

(b) Declare CONSULTANT ineligible for future TOWN contracts until it is determined to be in compliance.

XXII.
Arbitration

CONSULTANT agrees not to enter into any agreement to arbitrate arising out of, or relating to, this Contract which would subject TOWN to being a party to any arbitration without TOWN's prior written consent.

XXIII.
No Waiver of Governmental Immunity

Nothing in this Contract shall be construed as a waiver of TOWN'S governmental immunity, or of any applicable limitation on damages, or any other legal protection or defense or privilege of TOWN, except to the extent expressly provided otherwise herein.

XXIV.
Severability

If any of the terms, provisions, covenants, conditions or any other part of this Contract are for any reason held to be invalid, void or unenforceable, the remainder of the terms, provisions, covenants, conditions or any other part of this Contract shall remain in full force and effect and shall in no way be affected, impaired or invalidated.

XXV.
Remedies

No right or remedy granted herein or reserved to the parties is exclusive of any other right or remedy herein by law or equity provided or permitted; but each shall be cumulative of every other right or remedy given hereunder. No covenant or condition of this Contract may be waived without written consent of the parties. Forbearance or indulgence by either party shall not constitute a waiver of any covenant or condition to be performed pursuant to this Contract.

XXVI.
Entire Agreement

This Contract embodies the entire agreement of the parties hereto, superseding all oral or written previous and contemporaneous agreements between the parties relating to matters herein, and except as otherwise provided herein cannot be modified without written agreement of the parties.

XXVII.
Non-Waiver

It is further agreed that one (1) or more instances of forbearance by TOWN in the exercise of its rights herein shall in no way constitute a waiver thereof.

XXVIII.
Headings

The headings of this Contract are for the convenience of reference only and shall not affect any of the terms and conditions hereof in any manner.

XXIX.
Venue

Situs of this Contract is agreed to be Denton County, Texas, for all purposes, including performance and execution, and the parties to this Contract agree and covenant that this Contract will be enforceable in Flower Mound, Texas; and that if legal action is necessary to enforce this Contract, exclusive venue will lie in Denton County, Texas.

XXX.
No Third Party Beneficiary

For purposes of this Contract, including its intended operation and effect, the parties (TOWN and CONSULTANT) specifically agree and contract that: (1) the Contract only affects matters/disputes between the parties to this Contract, and is in no way intended by the parties to benefit or otherwise affect any third person or entity notwithstanding the fact that such third person or entity may be in contractual relationship with TOWN or CONSULTANT or both; and (2) the terms of this Contract are not intended to release, either by contract or operation of law, any third person or entity from obligations owing by them to either TOWN or CONSULTANT.

[The remainder of this page is left blank intentionally]

IN WITNESS WHEREOF, the parties hereto have caused this document to be executed as of the date first above written.

THE TOWN OF FLOWER MOUND, TEXAS

By:_____
The Honorable Steve Dixon
Mayor, Town of Flower Mound

Date Signed: _____

Attest:

_____
Town Secretary

CONSULTANT:
KIMLEY-HORN AND ASSOCIATES, INC.

By: Scott R. Arnold
Name: Scott R. Arnold
Title: Vice President

Date Signed: December 7, 2020

State of Texas §
§
County of Tarrant §

This instrument was acknowledged before me on the 7th day of December, 2020, by Scott R. Arnold in his capacity as Vice President of Kimley-Horn and Associates, Inc., a North Carolina Corporation, known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged that he executed the same on behalf of and as the act of Vice President.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, THIS THE 7th DAY OF December 20 20.

Jennifer Lynn Pena
Notary Public, State of Texas

My Commission Expires:
7-23-21

JENNIFER LYNN PENA
Notary Public, State of Texas
Comm. Expires 07-23-2021
Notary ID 125367896

ATTACHMENT A

SCOPE OF SERVICES

PROJECT NAME: Oak Street Lift Station and Force Main Phase IV

PROJECT UNDERSTANDING

This project includes improvements to the Town's existing Oak Street Lift Station to increase firm pumping capacity as well as

More specifically, the project is anticipated to include the following:

- Replace 2 small 77 HP pumps with 1 large 215 HP pump with AFD.
- Install new generator to power 2 large pumps and ancillary site power
- Upsize mechanical piping and valving
- Install new electrical building
- Replace existing bridge crane
- Structural improvements to existing wet well/dry pit structure

SCOPE OF PROFESSIONAL SERVICES

TASK 1: GENERAL ITEMS AND MEETINGS

A. Kick-off Meeting - Conduct kick-off meeting with the Town to confirm the goals, schedule, and deliverables for the project.

B. 30% Design Review Meeting - Conduct meeting with Town to review 30% technical memorandum. Prepare meeting minutes following review meeting.

C. 60% Design Review Meeting – Conduct meeting with Town to review 60% plans. Prepare meeting minutes following review meeting.

D. 90% Design Review Meeting - Conduct meeting with Town to review 90% plans. Prepare meeting minutes following review meeting.

E. Operations Meeting(s) – Conduct up to two (2) meetings with Town Operations staff to discuss lift station operations.

F. Project Management – Prepare project schedule, conduct internal project meetings, prepare monthly invoices, prepare project deliverables, and coordinate with subconsultants.

TASK 2: FIELD SURVEY AND BASE MAPPING

A. Perform field survey to identify and locate existing topographic elements within the existing fence limits of the Oak Street Lift Station. Topographic elements include, but are not limited to, the following:
    1. Property pins
    2. Existing pavement
    3. Driveways
    4. Utility manholes, vaults, water valves, water meters, sprinkler heads, telephone poles, power poles, utility markers, other public utilities, and franchise utilities
    5. Electrical equipment
    6. Signs (excluding temporary signs)
    7. Buildings
    8. Fence limits and material types
    9. Other applicable physical features that could impact design

B. Walk the survey and review the final topographic drawing in digital format (including one foot contours and breaklines) showing the features located in the field as well as property boundary information. Document and incorporate minor changes into the base map. Minor changes are anticipated not to require additional survey ties. If field work by a survey crew is required it shall be considered an Additional Service.

C. Incorporate underground franchise utilities, water, wastewater, and electrical lines based on available record drawings.

TASK 3: 30% DESIGN

A. Design Tasks
    1. Perform site visit to evaluate existing infrastructure
    2. Evaluate system hydraulics and confirm pump and mechanical piping sizing.
    3. Evaluate electrical building footprint requirements. Evaluate construction shutdown and sequencing to determine if existing electrical building can utilize for proposed improvements while keeping station in service.
    4. Evaluate pump operations and pump setpoints.
    5. Size proposed generator.
    6. Perform schematic site planning to identify locations of proposed generator and electrical building.
    7. Prepare schematic dry pit/wet well mechanical plan and section exhibit.
    8. Prepare technical memorandum detailing the proposed improvements. Technical memorandum will include opinion of probable construction costs and schematic exhibits.
    9. Submit to the Town 30% technical memorandum for review and comment.

B. Design Deliverables
    1. Three (3) copies of the Technical Memorandum.

C. Services provided by the Town
    1. Review and comment on the Technical Memorandum.

D. Exclusions:
    1. It is assumed that onsite modifications including a new generator and a new electrical building will not require a formal site plan submittal through the Town's development review process. If a formal submittal is required, this will be considered an Additional Service.

TASK 4: 60% DESIGN

A. Design Tasks
    1. Address Town 30% review comments.
    2. Prepare construction drawings based on existing surface features and current design standards. Plan sheet will consist of a 22"x34" sheet. The following sheets are anticipated with the 60% submittal:
        a. Cover
        b. General Notes
        c. Existing Site Plan and Project Control
        d. Site Demolition Plan
        e. Dry Pit/Wet Well Demolition Plan
        f. Dimensional Control Plan
        g. Dry Pit/Wet Well Mechanical Plan and Section
        h. Construction Details
        i. Erosion Control Details
        j. Electrical General Notes
        k. Electrical Site Plan
        l. Electrical One Line Diagrams
        m. Electrical Building Plan
        n. Electrical Details
        o. Generator Details
        p. Electrical Schedules
        q. Electrical Control Schematic Details
    3. Evaluate flow control/check valves on the discharge side of the pumps.
    4. Prepare opinion of probable construction cost based on preliminary design.
    5. Submit to the Town 60% plan view only plans and OPCC for review and comment.

B. Design Deliverables
    2. Three (3) copies of the 60% Construction Plans
    3. Three (3) copies of the Opinion of Probable Construction Cost

E. Services provided by the Town
    2. Review and comment on 60% plan view only plans and OPCC.

TASK 5: 90% DESIGN

A. Design Tasks
    1. Prepare plan and profile sheets as necessary based on existing surface features and current design standards. Plan sheet will consist of a 22"x34" sheet. The following sheets are anticipated
        a. Cover
        b. General Notes
        c. Existing Site Plan and Project Control
        d. Site Demolition Plan
        e. Dry Pit/Wet Well Demolition Plan
        f. Dimensional Control Plan
        g. Dry Pit/Wet Well Mechanical Plan and Section
        h. Grading Plan
        i. Bypass Pumping Plan
        j. Construction Details
        k. Erosion Control Details
        l. Electrical General Notes
        m. Electrical Site Plan
        n. Electrical One Line Diagrams
        o. Electrical Building Plan
        p. Electrical Details
        q. Generator Details
        r. Electrical Schedules
        s. Electrical Control Schematic Details
        t. Structural General Notes
        u. Structural Generator Foundation
        v. Structural Electrical Building Foundation
        w. Structural Dry Pit/Wet Well Penetration Modifications
        x. Structural Discharge Header Penetration Modifications
        y. Structural Details
    2. Prepare specifications which include technical specifications for materials and installation of the proposed facilities. The contract documents shall be based upon Flower Mound Contract Documents. The NCTCOG Standard Specifications for Public Works Construction and the Town of Flower Mound's requirements for Public Works Construction will govern all other specifications.
    3. Make revisions based on the Town's review of the 60% plans.
    4. Evaluate sequencing and shutdown requirements.
    5. Perform structural design associated with generator foundation, electrical building foundation, discharge header penetrations, and dry pit/wet well penetration modifications. New electrical building is assumed to be a

prefabricated concrete building. Structural design for the building is not included in this scope of work.

a. Generator and building slab are assumed to be either a reinforced concrete slab-on-grade or a slab supported by deep foundations.
b. Modifications to wet/dry well penetrations are limited to the structural and waterproofing repairs for two existing penetrations through the interior wall separating the wet well and dry well. Details will also include one new penetration through the existing wall in a new location.

6. Prepare opinion of probable construction cost based on preliminary design.
7. Submit to the Town 90% complete Contract Documents and OPCC for review and comments.

B. Design Deliverables
1. Three (3) copies of the 90% Contract Documents (Plans and Specifications)
2. Three (3) copies of the Opinion of Probable Construction Cost for 90% submittals.

C. Services provided by the Town
1. Review and comment on 90% plans, technical specifications and OPCC.

TASK 6: 100% DESIGN

A. Design Tasks
1. Make revisions based on the Town's review of the 90% submittal.
2. Prepare opinion of probable construction cost based on final design.
3. Submit to the Town 100% complete plans, specifications and OPCC
4. Submit final plans to appropriate regulatory agencies (TCEQ) for review and comments.

B. Design Deliverables
1. Three (3) copies of the 100% Contract Documents (Plans and Specifications)
2. Three (3) copies of the Opinion of Probable Construction Cost for 100% submittals.

TASK 7: GEOTECHNICAL

A. Description
1. Perform two (2) geotechnical borings at the lift station site. The bores will be used to determine the general soil stratum as well as provide data for structural design of the generator foundation and electrical building foundation. The borings will be to a depth of approximately thirty (30) feet.

B. Deliverables
1. Two (2) copies of the Geotechnical Report

TASK 8: BIDDING PHASE SERVICES

A. Print and issue 5 sets of bidding documents and provide CD with PDFs. Additional sets of bidding documents shall be printed, only upon the Town's authorization, as Additional Professional Services. Bidding documents will be issued to potential bidders upon the payment of a non-refundable fee to cover the cost of printing those documents.

B. Review Contractor questions and issue addenda as required.

C. Prepare specification books for execution

D. Prepare for and attend pre-bid meeting.

E. Prepare conformance documents which reflect changes made to the plans and specifications during bidding via addenda.

F. Deliverables
    1. Addenda as required
    2. Print and deliver to the Town up to 5 sets of bid documents and conformance documents.
    3. Deliver 2 sets of specification books for execution
    4. PDF of bid documents
    5. PDF of conformance documents

TASK 9: CONSTRUCTION PHASE SERVICES

A. Pre-Construction Conference – Kimley-Horn will conduct a Pre-Construction Conference prior to commencement of Work at the Site.

B. Visits to Site and Observation of Construction – Kimley-Horn will provide on-site construction observation services during the construction phase. Kimley-Horn will make visits at intervals as directed by the Town in order to observe the progress of the Work. A maximum of two (2) site visits are anticipated. Such visits and observations by Kimley-Horn are not intended to be exhaustive or to extend to every aspect of Contractor's work in progress. Observations are to be limited to spot checking, selective measurement, and similar methods of general observation of the Work based on Consultant's exercise of professional judgment. Based on information obtained during such visits and such observations, Kimley-Horn will evaluate whether Contractor's work is generally proceeding in accordance with the Contract Documents, and Kimley-Horn will keep the Town informed of the general progress of the Work.

    The purpose of Kimley-Horn's site visits will be to enable Kimley-Horn to better carry out the duties and responsibilities specifically assigned in this Agreement to Kimley-

Horn, and to provide the Town a greater degree of confidence that the completed Work will conform in general to the Contract Documents. Kimley-Horn shall not, during such visits or as a result of such observations of Contractor's work in progress, supervise, direct, or have control over Contractor's work, nor shall Kimley-Horn have authority over or responsibility for the means, methods, techniques, equipment choice and usage, sequences, schedules, or procedures of construction selected by Contractor, for safety precautions and programs incident to Contractor's work, nor for any failure of Contractor to comply with laws and regulations applicable to Contractor's furnishing and performing the Work. Accordingly, Kimley-Horn neither guarantees the performance of any Contractor nor assumes responsibility for any Contractor's failure to furnish and perform its work in accordance with the Contract Documents.

C. Construction Meetings - Prepare for and attend construction meetings to assist Town in contractor administration. A maximum of two (2) progress meetings are assumed for budget purposes.

D. Recommendations with Respect to Defective Work – Kimley-Horn will recommend to the Town that Contractor's work be disapproved and rejected while it is in progress if, on the basis of such observations, Kimley-Horn believes that such work will not produce a completed Project that conforms generally to Contract Documents.

E. Requests for Information (RFI's) – Respond to reasonable and appropriate Contractor requests for information and issue necessary clarifications and interpretations of the Contract Documents to the Town as appropriate to the orderly completion of Contractor's work. Any orders authorizing variations from the Contract Documents will be made by the Town. A maximum of five (5) RFI's are anticipated.

F. Work Change Directives (WCD), Field Orders (FO), and Proposed Contract Modifications (PCM) – Prepare work change directives and field orders as requested by the Town or required by construction. Review contractor proposed contract modifications and make recommendations to the Town. A maximum of two (2) work change directives, field orders, and/or proposed contract modifications (2 combined between the three types) are assumed for budget purposes.

G. Shop Drawings and Samples – Review and approve or take other appropriate action in respect to Shop Drawings and Samples and other data which Contractor is required to submit, but only for conformance with the information given in the Contract Documents. Such review and approvals or other action will not extend to means, methods, techniques, equipment choice and usage, sequences, schedules, or procedures of construction or to related safety precautions and programs.

This task also includes administrative responsibilities associated with maintaining the online ShareFile site used for distribution of documents, updating and distribution of shop drawing logs, and coordination with Contractor, Town, Subconsultants, and

Telecommunication companies. Forty-five (45) shop drawings are assumed for budget purposes.

H. Substitutes and "or-equal." – Evaluate and determine the acceptability of substitute or "or-equal" materials and equipment proposed by Contractor in accordance with the Contract Documents, but subject to the provisions of applicable standards of state or local government entities.

I. Substantial Completion. –After notice from Contractor that it considers the entire Work ready for its intended use, in company with the Town and Contractor, conduct a site visit to determine if the Work is substantially complete. Work will be considered substantially complete following satisfactory completion of all items with the exception of those identified on a final punch list. Attending a final completion walkthrough is not included in this scope of work.

J. Limitation of Responsibilities – Kimley-Horn shall not be responsible for the acts or omissions of any Contractor, or of any of their subcontractors, suppliers, or of any other individual or entity performing or furnishing the Work. Kimley-Horn shall not have the authority or responsibility to stop the work of any Contractor.

TASK 10: RECORD DRAWINGS

A. Prepare record drawings from Contractor's marks showing changes made during construction. Transfer Contractor's marks to digital format. Kimley-Horn will be provided the Contractor's revisions and shall not be responsible for verifying their completeness or accuracy.

B. Deliverables
    1. One (1) compact disc containing Record Drawing in digital format (PDF, TIFF, CAD)

C. Services Provided by the Town
    1. Review of Contractor's marks for completeness and accuracy

ADDITIONAL SERVICES

Any services not specifically provided for in the above scope will be considered additional services and can be performed at our then current hourly rates. Additional services we can provide include, but are not limited to, the following:

- Assisting Town or contractor in the defense or prosecution of litigation in connection with or in addition to those services contemplated by this Agreement. Such services, if any, shall be furnished by the Consultant on a fee basis negotiated by the respective parties outside of and in addition to this Agreement.
- Sampling, testing, or analysis beyond that specifically included in the Scope of Services referenced herein above.
- Preparing applications and supporting documents for government grants, loans, or planning advances, and providing data for detailed applications.
- Appearing before regulatory agencies or courts as an expert witness in any litigation with third parties or condemnation proceedings arising from the development or construction of the Project, including the preparation of engineering data and reports for assistance to the Town.
- Providing professional services associated with the discovery of any hazardous waste or materials in the project route.
- Providing presentations to the Town Council.
- Providing additional printing for bidding document distribution.
- Providing additional documentation required by the Town's legal representative during condemnation proceedings.
- Providing any easement acquisition services.
- Preparing for and facilitating neighborhood meetings.
- Attending additional public meetings during the project.
- Preparing a Bid Tabulation or Recommendation Letter
- Reviewing Contractor's References
- Preparing detailed traffic control plans
- Perform Level A or Level B SUE.
- Any services not listed in the Scope of Services.

ATTACHMENT B

COMPENSATION

The Consultant will provide the Scope of Services for a lump sum fee.

TASK 1 – General Items and Meetings	$14,500
TASK 2 – Field Survey and Base Mapping	$8,500
TASK 3 – 30% Design	$46,000
TASK 4 – 60% Design	$72,000
TASK 5 – 90% Design	$109,000
TASK 6 – 100% Design	$14,000
TASK 7 – Geotechnical	$5,000
TASK 8 – Bidding Phase Services	$10,000
TASK 9 – Construction Phase Services	$42,000
TASK 10 – Record Drawings	$9,500
TOTAL	**$330,500**

Additional services will be negotiated at the time they are identified.

TOWN COUNCIL AGENDA ITEM NO. 9

CONSENT ITEM

DATE: January 4, 2021

FROM: Chuck Jennings, Director of Parks and Recreation

ITEM: **Consider approval of naming the 1.1 acre public park located within the Tinley Park residential development as Blue Blossom Preserve.**

BACKGROUND INFORMATION: The naming or renaming of Town parks is the responsibility of the Parks Board. The process for determination of a name for recommendation to the Town Council is specified in Town Ordinance Sec. 54-1. The 1.1-acre tract was dedicated to the Town in September of 2020, with the intent to remain a bluebonnet wildflower area. Per the Town's code of ordinances, names for new parks shall typically be established within 90 days from the date of land acquisition, or at the earliest possible time.

At the November 5, 2020, regular meeting, the Chair of the Parks Board appointed a Committee that was tasked with recommending a name for the new park. The Committee consisted of board members Holly Royer, Dale Olson, and Preston Peterson. The committee met on November 18, 2020, at the Town's O&M Facility. The Naming Committee looked at a variety of different options that took the following into consideration: streets, geographical locations, ecological features, historical figures, events, concepts, local, state or national leaders, or in memoriam for public servants or residents who perished in the line of duty.

Utilizing the information provided by staff and lots of brainstorming, the Committee recommended that the Parks Board consider Blue Blossom Preserve as the name for the parkland. With the park being located along FM3040 and Duncan Lane and taking into consideration that this area has historically been an ideal location for Blue Bonnets; the committee felt this name would be appropriate. Knowing that the Parks Board and Town Council accepted the 1.1 acre parkland to preserve the existing wildflower area and have a location for a future town entry/exit monument, the committee decided it was best to leave "park" out of the name. The committee was concerned that having the word "park" in the name could be misleading as future residents to the new residential development may have expectations that traditional park amenities (i.e – playground equipment) would eventually be constructed.

The naming committee also recommended that staff consider adding benches and interpretive signs to educate the public on the different wildflowers, pollinators, and other insects, residents might see as they visit the wildflower preserve.

BOARD REVIEW/CITIZEN FEEDBACK: The Parks Board recommended approval by a unanimous vote of 6 to 0 at its December 3, 2020, regular meeting. https://flowermoundtx.swagit.com/play/12032020-866

ALTERNATIVES/OPTIONS: The Town Council can decide to name the park something different or send the item back to the Parks Board for additional options.

FISCAL IMPACT: N/A

LEGAL REVIEW: N/A

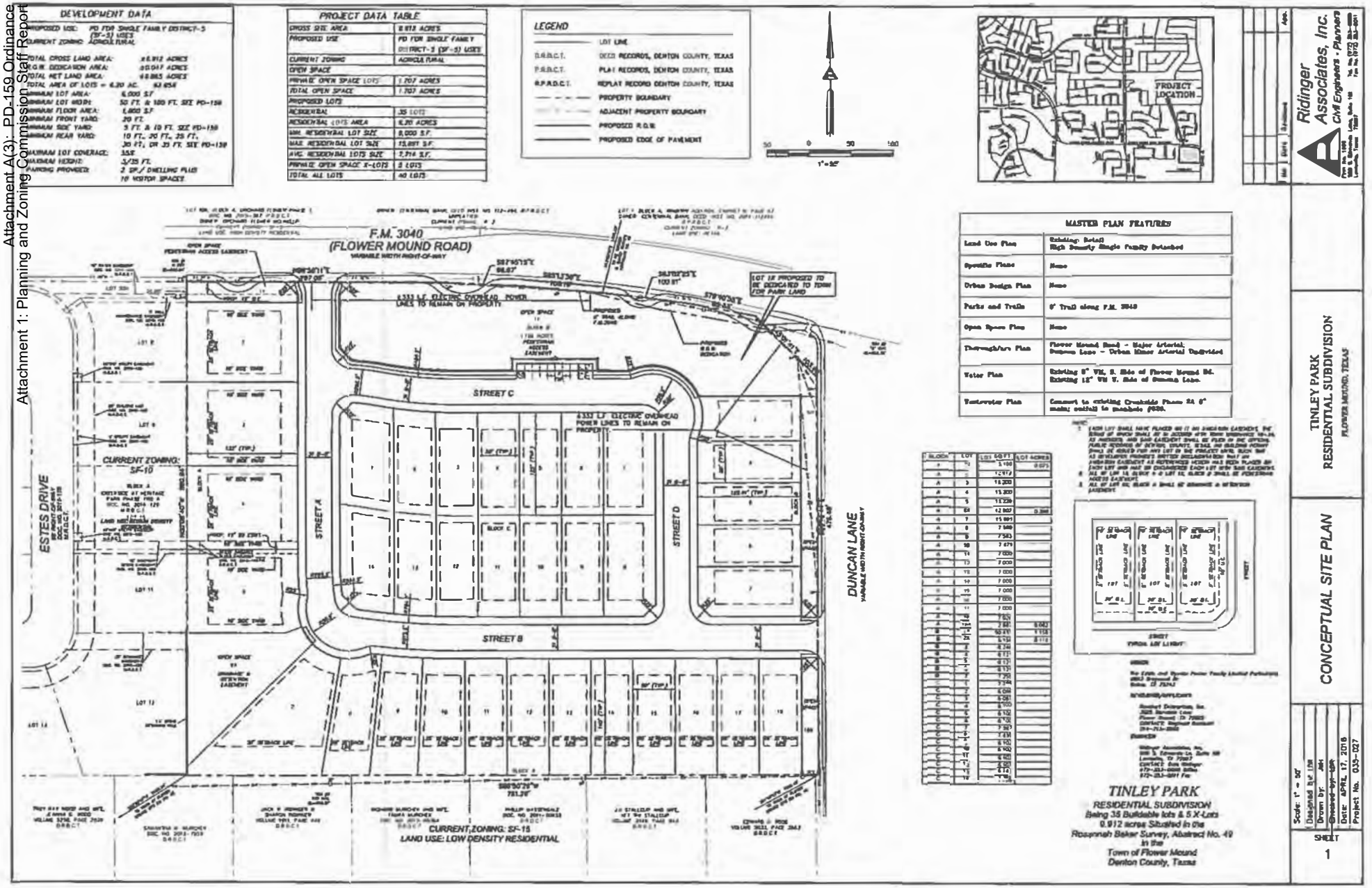
ATTACHMENTS:

1. Site map of the development
2. Example of park sign with proposed name

DRAFT MOTION: Move to approve as presented in the agenda caption.

Attachment 1

Attachment A(3): PD-159 Ordinance
Attachment 1: Planning and Zoning Commission Staff Report



Attachment 2

Total width 5 feet

Horizontal sign panels 8“x60“

Posts 6“x8“

Total height 4 feet above grade

TOWN COUNCIL AGENDA ITEM NO. 10

CONSENT ITEM

DATE: January 4, 2021

FROM: Mark Long, Assistant Director of Parks and Recreation

ITEM: **Consider approval of an ordinance of the Town Council of the Town of Flower Mound, Texas, amending Appendix A "Fee Schedule," of the Code of Ordinances, Town of Flower Mound, Texas: establishing the fee for lease of Town facilities to Lewisville Independent School District, per a Facility Use Agreement; providing this ordinance shall be cumulative of all ordinances; providing a severability clause; and providing an effective date.**

BACKGROUND INFORMATION: In July 2019, the Lewisville Independent School District (LISD) notified the Town of Flower Mound that it was terminating the 2003 Interlocal Cooperation Agreement for Joint Use of Property between the District and the Town. LISD felt that a new agreement was needed due to the amount of time that had passed since entering into that agreement. The District indicated that certain provisions were no longer relevant or not being adhered to since the parties had modified facilities and/or procedures over time.

LISD and the Town acknowledged that it was in the best interest of both parties, and the communities they serve, to continue a positive, productive, and mutually beneficial relationship with regard to the use of each other's facilities. In the summer of 2020, LISD and the Town negotiated the terms of a Facility Use Agreement (FAU) under the authority of the Interlocal Cooperation Act, Texas Government Code, Chapter 791. The FAU covered specific items including terms of agreement, termination, payment of fees, rental rates, and recognition of Town sponsored sports organizations.

The rental rates charged by the LISD are the lowest rates the district charges any person or group. Within the FAU, LISD requested that the Town consider amending their rental rates to create a new tier of pricing that is lower than any rate currently offered to any person or group. The fees initially provided to LISD in the agreement were based on the lowest rates charged per ordinance. Staff informed LISD that any change to such fees would require a revision of the Town's Code of Ordinances and approval by Town Council.

Town staff began the process of reviewing rates in the fall of 2020 and determined that an additional ten percent (10%) off the lowest rates charged for use of areas at the Community Activity Center (CAC) was reasonable since the CAC is a revenue generating facility. Also, listed are lower rates for pavilion rentals at area parks and Twin Coves Park. The rates for supervisor and custodial fees will remain the same per the original agreement. Use of Town facilities or property outside of the areas listed in Exhibit B for special events will be considered individually and approved administratively. Should approval be granted, the discounted rates for the LISD shall become effective immediately and will supersede the rates established in Exhibit B of the FAU. Both the Town and LISD will promptly amend the agreement to reflect the new rates.

BOARD REVIEW/CITIZEN FEEDBACK: N/A

ALTERNATIVES/OPTIONS: The Town Council could decide not to amend the ordinance and continue with the rates provided to LISD in the current Facility Use Agreement.

FISCAL IMPACT: N/A

LEGAL REVIEW: Benjamin Gill, of Taylor, Olson, Adkins, Sralla, & Elam L.L.P., has reviewed the ordinance as to form and legality

ATTACHMENTS:

1. Proposed Ordinance
2. Facility Use Agreement

DRAFT MOTION: Move to approve as presented in the agenda caption.

Attachment 1

TOWN OF FLOWER MOUND, TEXAS

ORDINANCE NO. _____

AN ORDINANCE OF THE TOWN COUNCIL OF THE TOWN OF FLOWER MOUND, TEXAS, AMENDING APPENDIX A "FEE SCHEDULE," OF THE CODE OF ORDINANCES, TOWN OF FLOWER MOUND, TEXAS; ESTABLISHING THE FEE FOR LEASE OF TOWN FACILITIES TO LEWISVILLE INDEPENDENT SCHOOL DISTRICT, PER A FACILITIES USE AGREEMENT; PROVIDING THIS ORDINANCE SHALL BE CUMULATIVE OF ALL ORDINANCES; PROVIDING A SEVERABILITY CLAUSE; AND PROVIDING AN EFFECTIVE DATE.

WHEREAS, the Town of Flower Mound is a home rule municipality acting under its charter adopted by the electorate pursuant to Article XI, Section 5, of the Texas Constitution and Chapter 9 of the Local Government Code; and

WHEREAS, the Town Council of the Town of Flower Mound has previously adopted a Fee Schedule as Appendix A to the Town's Code of Ordinances; and

WHEREAS, the Town of Flower Mound has entered into a Facilities Use Agreement on or about September 15, 2020, and as part of that agreement will offer the lowest rates the Town offers to any person or group; and

WHEREAS, the Town Council wishes to amend the Fee Schedule to reflect rates for rental of Town-owned facilities to Lewisville Independent School District.

NOW, THEREFORE, BE IT ORDAINED BY THE TOWN COUNCIL OF THE TOWN OF FLOWER MOUND, TEXAS:

SECTION 1

That Appendix A of the Code of Ordinances, Town of Flower Mound, Texas, is hereby amended by amending the schedule of fees regarding Rental Rates, to add specific rental rates applicable to Lewisville Independent School District (LISD) under the Facilities Use Agreement to read as follows:

"Town of Flower Mound – Facility Rental Rates for Lewisville ISD

Park/Facility Area Type	Rate (per hour)
Park Pavilion	$5.00 per hour
Twin Coves Park Pavilion	$50.00 fee to include up to four hours $10.00 each additional hour
Community Activity Center - Outdoor Pool (After Hours)	10% off the lowest charged rate (includes lifeguards)
Community Activity Center - Indoor Pool (After Hours)	10% off the lowest charged rate
Community Activity Center – Swim Team Lap Lane Rental	10% off per hour of the lowest charged rate for non-peak times 10% off per hour of lowest charged rate for peak times
Community Activity Center – Catering Kitchen	10% off the lowest charged rate
Community Activity Center – Meeting Rooms	10% off per hour of the lowest charged rate for one room 10% off per hour of the lowest charged rate for two rooms 10% off per hour of the lowest charged rate for three rooms
Community Activity Center – Indoor Pool Party Room	10% off per hour the lowest charged rate
Community Activity Center – Gym	10% off per hour the lowest charged rate, half court 10% off per hour the lowest charged rate, full court 10% off per hour the lowest charged rate, Full Gym (After Hours)
Additional TOFM Personnel Costs	
TOFM Site Supervisor for Rental (not always applicable)	$15.00 per hour
TOFM Custodial for Rental (not always applicable)	$35.00 per restroom cleaning

"

SECTION 2

This Ordinance shall be cumulative of all provisions of ordinances and of the Code of Ordinances of the Town of Flower Mound, Texas, as amended, except when the provisions of this Ordinance are in direct conflict with the provisions of such ordinances and such code, in which event the conflicting provisions of such ordinances and such code are hereby repealed.

SECTION 3

It is hereby declared to be the intention of the Town Council that the sections, paragraphs, sentences, clauses, and phrases of this Ordinance are severable, and if any section, paragraph, sentence, clause, or phrase of this Ordinance shall be declared unconstitutional by the valid judgment or decree of any court of competent jurisdiction, such unconstitutionality shall not affect any of the remaining sections, paragraphs, sentences, clauses, and phrases of this Ordinance, since the same would have been enacted by the Town Council without the incorporation in this Ordinance of any such unconstitutional section, paragraph, sentence, clause or phrase.

SECTION 4

This Ordinance shall be in full force and effect from and after the date of its passage and publication as required by law, and it is so ordained.

DULY PASSED AND APPROVED BY THE TOWN COUNCIL OF THE TOWN OF FLOWER MOUND, TEXAS, BY A VOTE OF _____ TO _____, ON THIS THE 4TH DAY OF JANUARY, 2021.

APPROVED:

_____
Steve Dixon, MAYOR

ATTEST:

_____
Theresa Scott, TOWN SECRETARY

FACILITIES USE AGREEMENT
BETWEEN THE LEWISVILLE INDEPENDENT SCHOOL DISTRICT
AND THE TOWN OF FLOWER MOUND

In July 2019, the Lewisville Independent School District (the "District") notified the Town of Flower Mound (the "Town") that it was terminating the 2003 Interlocal Cooperation Agreement for Joint Use of Property between the District and the Town. Because of the amount of time that passed since the District and the Town drafted and entered into that agreement, certain provisions were no longer relevant or not being adhered to since the parties had modified facilities and/or procedures over time.

Both the District and Town acknowledge that it is in the best interest of both parties, and the communities they serve, to continue a positive, productive, and mutually beneficial relationship with regard to the use of each other's facilities. For that reason, the District and Town enter into this Facility Use Agreement (the "Agreement") under the authority of the Interlocal Cooperation Act, Texas Government Code, Chapter 791.

Beginning September 1, 2020, the District agrees to charge the Town and its sponsored sports organizations, including Flower Mound Youth Sports Association, Greater Lewisville Area Soccer Association, Cross Timbers Sports (YMCA), and Flower Mound Lacrosse Association, the rental rates for use of its facilities reflected in the attached **Exhibit A**. Those rental rates are the lowest rates the District charges any person or group. Also beginning September 1, 2020, the Town agrees to charge the District the rental rates for use of its facilities reflected in the attached **Exhibit B**. At the time of execution, those rental rates are the lowest rates the Town offers any person or group. However, the Town agrees to use best efforts to seek Town Council approval to offer the District further discounted rental rates as soon as reasonably possible, with a goal of such approval being granted prior to the end of 2020. Should approval be granted, those approved discounted rates for the District shall become effective immediately and will supersede the rates established in Exhibit B. The parties shall promptly amend this Agreement to reflect such discounted rates. The District and Town further agree that nothing in this Agreement shall prohibit the parties from entering into separate agreements for the shared use of individual facilities.

Because the District and Town agree that submitting and paying monthly invoices for use of its facilities pursuant to this Agreement would be burdensome and unnecessary, the District and Town will maintain records of use of its facilities and related charges pursuant to this Agreement, but will not submit invoices to the other party per its typical practice. Instead, on two occasions per calendar year, the District and Town will share those records, and the party who is owed the higher amount of charges will submit an invoice to the other party in the amount of the difference between the parties' facility use charges for that time period. The District's primary point of contact for any matter related to this Agreement is Jason Hughes, Executive Director of Facilities and Construction. The Town's primary point of contact for any matter related to this Agreement is Chuck Jennings, Director of Parks and Recreation.

The term of this Agreement shall be for a period of one (1) year. This Agreement shall automatically renew for additional one (1) year terms upon the expiration of any term, unless terminated by either Party. Either party may terminate this Agreement at any time by delivering to the other party, in writing, a notice of cancellation of this Agreement at least 30 days prior to the date of termination. However, in the event of such early termination, any facilities reservations with rates governed by this Agreement which have already been made on the date such notice is delivered shall be honored at the rate reflected in **Exhibit A** for those properties owned by the District, or **Exhibit B** for those properties owned by the Town. Any termination of this Agreement must be delivered at least thirty (30) days prior to the expiration of any one-year term.

Except as otherwise stated herein, after the expiration of the initial term of this Agreement, either or both parties may offer to substitute either **Exhibit A**, for the District's facilities, or **Exhibit B**, for the Town's facilities.

Such substitution must be sent at least sixty (60) days prior to the expiration of any one-year term, and shall take effect upon the beginning of the next one-year term.

Nothing in this Agreement, or any Exhibit hereto, shall be construed as a waiver or release of any immunity, defense, or affirmative defense by any Party. This Agreement was negotiated in and shall be performable in Denton County, Texas. This Agreement shall not be construed to create any right, claim, or cause of action in any third party. This Agreement shall be governed and interpreted under the laws of the State of Texas, exclusive of Texas choice-of-law rules or provisions. Any venue for any action shall be in Denton County, Texas.

Based on the above, the District and Town hereby enter into this Agreement effective on the date the Agreement is fully executed below.

By: Kevin Rogers 9/15/20

Kevin Rogers, Ed.D. Date
Superintendent, Lewisville Independent School District

By: 9/15/2020

Debra Wallace Date
Interim Town Manager, Town of Flower Mound

Exhibit A

Lewisville ISD – Facility Rental Rates for Municipalities

School Area Type	Lewisville ISD Rate (per hour)
HS Gym or Cafeteria	$10.00
MS Gym or Cafeteria	$8.00
ES Gym or Cafeteria	$5.00
HS Auditorium	$22.00
Tennis Courts	$5 per court
HS Track	$20.00
HS Stadium	20% off each applicable published rate
Classroom	$5 per room/per hour
Additional LISD Personnel Costs	
LISD Site Supervisor for Rental	$20.00 per hour
LISD Custodial for Rental *(not always applicable)	$20.00 per hour
LISD Technical Supervisor (for Auditorium use only)	$30.00 per hour
LISD Student Technicians – minimum of 2 required (for Auditorium use only)	$12.00 per hour *each student tech*

(Updated 9-1-2020)

Exhibit B

Town of Flower Mound – Facility Rental Rates for Lewisville ISD

Park/Facility Area Type	Rate (per hour)
Park Pavilion	$50.00 fee to include up to four hours $10.00 each additional hour
Twin Coves Park Pavilion	$100.00 fee to include up to four hours $20.00 each additional hour
Community Activity Center - Outdoor Pool (After Hours)	$270.00 per hour, two hour minimum (includes lifeguards)
Community Activity Center - Indoor Pool (After Hours)	$158.00 per hour, two hour minimum
Community Activity Center – Swim Team Lap Lane Rental	$7.00 per hour for non-peak times $9.00 per hour for peak times
Community Activity Center – Catering Kitchen	$20.00 flat fee
Community Activity Center – Meeting Rooms	$45.00 per hour for one room $72.00 per hour for two rooms $108.00 per hour for three rooms
Community Activity Center – Indoor Pool Party Room	$58.50 per hour
Community Activity Center – Gym	$18.00 per hour, half court $36.00 per hour, full court $168.00 per hour, Full Gym (After Hours)
Additional TOFM Personnel Costs	
TOFM Site Supervisor for Rental (not always applicable)	$15.00 per hour
TOFM Custodial for Rental (not always applicable)	$35.00 per restroom cleaning

(Updated 6-12-20)

TOWN COUNCIL AGENDA ITEM NO. 11

CONSENT ITEM

DATE: January 4, 2021

FROM: Melody Eby, Economic Development Specialist

ITEM: **Consider approval of the 2020 Annual Report for the Flower Mound Tax Increment Reinvestment Zone #1 (TIRZ #1) in accordance with Chapter 311 of the Texas Tax Code.**

BACKGROUND INFORMATION: On September 19, 2005, the Flower Mound Town Council established the TIRZ #1 by creating the zone, a Board of Directors, and a TIRZ fund. At the December 17, 2020, TIRZ #1 Board meeting, the Board voted unanimously to approve the 2020 Annual Report. The Annual Report provides a summary of the action steps taken by the Board of Directors and the Town Council for fiscal year 2019-2020. It also outlines the net taxable value and captured appraised value within the zone as well as the increment for fiscal year 2019-2020, which is $6,606,311. The Annual Report is required by law to be filed annually with Denton County and the Comptroller of Public Accounts in Austin before the 150th day following the end of the fiscal year.

BOARD REVIEW/CITIZEN FEEDBACK: The TIRZ #1 Board of Directors unanimously approved the 2020 Annual Report at its December 17, 2020, Board meeting.

ALTERNATIVES/OPTIONS: N/A

FISCAL IMPACT: N/A

Proposed Expenditure/(Revenue):	Account Number(s):
N/A	N/A

Finance Review by: N/A

LEGAL REVIEW: N/A

ATTACHMENTS:

1. 2020 Annual Report

DRAFT MOTION: Move to approve as presented in the agenda caption.

Attachment #1

Town of Flower Mound, Texas

Tax Increment Reinvestment Zone #1
(TIRZ #1)

ANNUAL REPORT

2020

Town of Flower Mound, Texas
Tax Increment Reinvestment Zone #1
As of September 30, 2020

INDEX

1) **Cover**

2) **Index**

3) **Year End Summary of Meetings/Town Council/Board Actions**

4) **Public Infrastructure/Building Projects**

5) **Capital Improvement Plan Budget**

6) **Budget vs. Expenditures**

7) **TIRZ Fund**

8) **Annual Report**

Town of Flower Mound, Texas
Tax Increment Reinvestment Zone #1
As of September 30, 2020

YEAR END SUMMARY OF MEETINGS/TOWN COUNCIL/BOARD ACTIONS

During the period from October 1, 2019, through September 30, 2020, the Town of Flower Mound Tax Increment Reinvestment Zone #1 (TIRZ) Board of Directors met once. The meeting was held on December 16, 2019 to approve the minutes from the December 3, 2018 TIRZ board meeting and the 2019 Annual Report.

Town of Flower Mound Economic Development Director, Andrea Roy, provided a brief overview of the 2019 Annual Report of the Flower Mound Tax Increment Reinvestment Zone #1 (TIRZ #1), including information that had changed since the previous annual report.

Deputy Town Manager/CFO, Debra Wallace, presented the revisions to the TIRZ #1 Project Plan, which included reallocating the $400,000 out of the Hike and Bike Trails to the Pink Evening Primrose Trail Connection (Bridge & Trail) project. The total amount for the project is $650,000, with a request of $400,000 coming from the TIRZ Fund and $250,000 coming from the Park Development Fund for fees that were paid in by NEM.

Board members appointed and serving at the time of the December 16, 2019 meeting: Town—Paul Stone, Bill Collins, Jim Engel and County—Larry Lipscomb and Lori Fickling. Ex-Officio members were Mayor Steve Dixon and Town Manager Jimmy Stathatos.

During the period from October 1, 2019, through September 30, 2020, the Flower Mound Town Council took the following action:

- At a meeting on December 16, 2019, the Town Council approved the 2019 Annual Report for the Flower Mound Tax Increment Reinvestment Zone #1 (TIRZ) in accordance with Chapter 311 of the Texas Tax Code.

Town of Flower Mound, Texas
Tax Increment Reinvestment Zone #1
As of September 30, 2020

PUBLIC INFRASTRUCTURE/BUILDING PROJECTS

2019-2020

River Walk Parking Structure

On October 20, 2014, a Chapter 380 Partnership Agreement was executed between the Town of Flower Mound and RMI River Walk Investors, LP, which included the use of TIRZ funding for up to $1 million for a public parking structure on the site of a nationally-branded hotel; later named the Courtyard by Marriott Dallas Flower Mound. Section 7 of the Agreement specifies that this financial assistance provided by the TIRZ may not exceed $1 million and will be paid as reimbursement for infrastructure costs following the issuance of a Certificate of Occupancy for the parking structure. A First Amendment to the Chapter 380 Agreement was approved by Town Council on May 4, 2015, placing additional requirements on the acceptance of these TIRZ funds, in exchange for an extension to the parking structure's building permit deadline. On September 18, 2017, the Town Council approved a Second Amendment to the Chapter 380 Agreement, extending the required completion date of the parking structure. Since approval of the Second Amendment, RMI River Walk Investors, LP, completed the parking structure and received a Building Final on March 23, 2018. RMI River Walk Investors, LP submitted a Payment Request to the Town, and $1 million was reimbursed for the parking structure on January 3, 2020.

Town of Flower Mound Public Library Project

On June 19, 2017, the TIRZ Board recommended the use of TIRZ #1 Funds to pay the annual debt service on the issuance of $10,900,000 for the Town of Flower Mound Public Library Renovation and Expansion Project. The project consists of a renovation of the existing 25,000 sq. ft. Library and an expansion of approximately 15,000 sq. ft., as well as associated site improvements. The expansion of the Library will create additional adult program rooms, quiet reading rooms, study rooms, additional collection space, a multi-purpose room, and more meeting spaces. On November 6, 2017, the Town Council approved a reimbursement resolution for an amount not to exceed $10,900,000 to fund improvements in accordance with the FY 17-18 Capital Improvement Plan. On December 4, 2017, the Town Council then authorized the publication of notice to issue Certificates of Obligation, Series 2018, in the principal amount not to exceed $10,900,000 to fund the project. This same evening, Town Council approved a professional services agreement for Library design services with Komatsu Architecture. Komatsu Architecture was the architect for the Library when originally built. Later, the Construction Manager at Risk (CMAR) contract with Steele & Freeman, Inc. was approved by the Town Council on June 18, 2018. The site plan was approved on

Town of Flower Mound, Texas
Tax Increment Reinvestment Zone #1
As of September 30, 2020

March 20, 2019, and the construction award and testing award were both approved at the May 6, 2019, Town Council meeting. The approved Guaranteed Maximum Price (GMP) with Steele & Freeman, Inc. for the construction of the Library Expansion Project was in the amount of $10,399,482.11. The Library reopened on November 1, 2020 with normal hours of operation, and the ribbon cutting/grand opening was held on November 5, 2020.

Town of Flower Mound, Texas
Tax Increment Reinvestment Zone #1
As of September 30, 2020

Street Projects

FM 1171 Westbound Turn Lane at FM 2499 Intersection

The project includes the installation of a FM 1171 westbound turn lane at the FM 1171/FM 2499 intersection, providing for approximately 410 feet of paving, hike/bike trails, utility relocations and traffic signal upgrades. The design contract in the amount of $55,000 was awarded to Kimley-Horn and Associates, Inc. on October 3, 2016. Since that time, project design and right-of-way acquisition have been completed. Franchise utility relocations are currently ongoing. Construction is anticipated to begin summer 2021.

FM 2499 and Waketon Intersection Improvements

The project initially included the addition of westbound and eastbound right turn lanes, however, during design and with coordination of adjacent property owners, the project will also include the northbound and southbound right turn lanes. The design contract was awarded to Halff Associates, Inc. in the amount of $173,450.00 at the March 4, 2019, Town Council meeting. Design has been completed and Town Council approved the construction award on August 17, 2020. Overhead power poles in conflict have been approved/permitted to be relocated and are scheduled to be completed in December 2020. Contractor is potholing additional underground utilities to verify no other franchise will conflict with the new improvements prior to beginning construction. Construction is anticipated to begin January 2021.

Rippy Road

Rippy Road will be completed in two phases. Phase 1 (Waketon Road to Pecan Meadows) included improvements of Rippy Road to its thoroughfare plan designated section, a two-lane concrete urban collector. On May 15, 2017, the Town Council approved a development agreement with CalAtlantic Homes, for construction of the improvements, providing reimbursement of the Town's share of the construction costs associated with the infrastructure improvements. Phase I of the project has been completed and the developer has received reimbursement for the construction costs associated with Phase 1.

Phase 2 (Pecan Meadows to FM 2499) includes improvements to approximately 2,500 linear feet of existing two-lane open section asphalt roadway to its thoroughfare plan designated section, a two-lane concrete urban collector. The project also includes an enclosed storm water collection system to improve storm water collection in the area. The design contract was awarded to CP&Y, Inc. at the March 4, 2019, Town Council meeting in the amount of $298,645.75. During design, additional design services were required. On September 21, 2000 a design amendment was approved by Town Council for the additional work,

increasing the not-to-exceed amount by $38,140.00. Design plans are 100% complete. Right-of-way acquisition and franchise utility coordination is ongoing. Phase 2 construction is expected to begin in Summer 2021.

Waketon Road

Waketon Road will be completed in two phases. Phase 1 (FM 2499 to the western limits of the proposed Bradford Park Subdivision, approximately 1,450' east of Chinn Chapel Road) included improvements of Waketon Road to its thoroughfare plan designated section, a two-lane concrete urban collector. On May 15, 2017, the Town Council approved a development agreement with CalAtlantic Homes, for construction of the improvements, providing reimbursement of the Town's share of the construction costs associated with the infrastructure improvements. Phase I of the project has been completed and the developer has received reimbursement in the amount of $2,259,020.90 for the construction costs associated with Waketon Road Phase 1.

Phase 2 (Chinn Chapel Road to the western limits of the Bradford Parks Subdivision) includes improvements to approximately 1,650 linear feet of existing two-lane open section asphalt roadway to its thoroughfare plan designated section, a two-lane concrete urban collector. The project also includes a roundabout at Chinn Chapel. This is a joint project with the Town of Double Oak as they improve Waketon Road from Chinn Chapel west. The professional services agreement for the design phase services, with Halff Associates, Inc., in the amount of $243,225, was approved on November 21, 2016. The plans are 100% complete and all ROW has been acquired. On August 18, 2020 Bids were received for the project. The Town of Double Oak requested a redesign of portions of their portion of the project due to funding issues. Rebid for Phase 2 will occur Spring 2021 with construction anticipated to begin Summer 2021. Franchise utility relocation is ongoing.

Churchill Drive

The project consists of extending Churchill Drive approximately 400 feet east to connect to Yucca Drive. Churchill Drive will be built during the reconstruction of Yucca Drive from Sagebrush to approximately 700 feet south of Cross Timbers. On June 20, 2016, the professional services agreement with Criado and Associates, Inc. to provide professional engineering services for the Yucca and Churchill projects in the amount of $181,249 was approved. On June 5, 2017, Amendment No. 2 was approved in the amount of $17,937 to the professional services contract to provide additional design services associated with the relocation and replacement of approximately 1,150 linear feet of waterline along Yucca Drive. Town

Council awarded the construction of both projects on August 20, 2018. Notice to proceed was provided to the contractor on November 5, 2018, and the project was recently completed.

East Waketon Rd Drainage Improvements

The project consists of channel excavation from FM 2499 to Waketon Road and culvert replacement under Waketon Road to alleviate the recurring flooding and traffic disruption of Waketon Road, east of FM 2499. The project will be constructed in two phases. Phase 1 provides for the channel excavation and Phase 2 provides for culvert replacement. In 2017, a drainage study was completed which provided hydraulic modeling of existing conditions, analysis of alternatives and a final report. The design was awarded on January 7, 2019, and plans are holding at 60% complete. During design it was determined that a reassessment of the upstream hydrology was needed to better model the existing conditions. The reassessment will explore the possibility of minimizing the project limits to reduce the impacts on trees and residential properties. Construction is currently scheduled for FY 21-22.

Town of Flower Mound, Texas
Tax Increment Reinvestment Zone #1
As of September 30, 2020

CAPITAL IMPROVEMENT PLAN BUDGET

Project		Estimated Cost
STREETS		
Dixon Lane (Chinn Chapel to Crestside)		$2,685,267
Chinn Chapel (FM 407 to Dixon)		1,387,500
Chinn Chapel (Dixon to Waketon)		941,305
Waketon Road (Rippy to Chinn Chapel)		5,270,000
Rippy Road (FM 2499 to Waketon)		2,115,000
Churchill (East end to Yucca)		400,000
FM 1171 at FM 2499 Westbound Right Turn Lane		998,000
FM 1171 at FM 2499 Eastbound Right Turn Lane		785,000
FM 2499 at Waketon Intersection		1,000,000
East Waketon Rd Drainage Improvements		470,000
	Subtotal	**$16,052,072**
SIGNALS		
College Parkway at FM 2499		$115,000
	Subtotal	**$115,000**
WATER		
FM 2499 west side from FM 1171 to Dixon		$1,700,000
FM 407 from FM 2499 to Country Meadows Addition		438,039
Morriss Waterline Project PH III		1,800,000
	Subtotal	**$3,938,039**
FACILITIES		
Town Hall		$10,000,000
Senior Citizen Activity Center		4,869,638
Library renovation/expansion		10,900,000
	Subtotal	**$25,769,638**
PARKS		
Pink Evening Primrose Trail Connection (Bridge & Trail)		$400,000
	Subtotal	**$400,000**
Improvements in Forum (Riverwalk) Area		$730,000
Parking Structure		1,000,000
	Subtotal	**$1,730,000**
Other Projects		**$464,566**
Town Center Master Plan		50,685
Retail Developments Shared Drive (FM 407 & Chinn Chapel)		180,000
	Subtotal	**$695,251**
	TOTAL	**$48,700,000**

Town of Flower Mound, Texas
Tax Increment Reinvestment Zone #1
As of September 30, 2020

BUDGET VS EXPENDITURES

Project	Current Budget	Expended Costs to Date	Remaining Balance
STREETS			
Dixon Lane (Chinn Chapel to Crestside)	$2,685,267	$2,685,267	$0
Chinn Chapel (FM 407 to Dixon)	1,387,500	1,387,500	0
Chinn Chapel (Dixon to Waketon)	941,305	941,305	0
Waketon Road	5,270,000	2,697,992	2,572,008
Rippy Road (FM 2499 to Waketon)	2,115,000	983,614	1,131,386
Churchill (East end to Yucca)	400,000	400,000	0
FM 1171 at FM 2499 Westbound Right Turn Lane	998,000	201,437	796,563
FM 1171 at FM 2499 Eastbound Right Turn Lane	785,000	432,752	352,248
FM 2499 at Waketon Intersection	1,000,000	298,898	701,102
East Waketon Rd Drainage Improvements	470,000	139,414	330,586
Subtotal	**$16,052,072**	**$10,168,179**	**$5,883,893**
SIGNALS			
College Parkway at FM 2499	$115,000	$115,000	$0
Subtotal	**$115,000**	**$115,000**	**$0**
WATER			
FM 2499 west side from FM 1171 to Dixon	$1,700,000	$600,773	$1,099,227
FM 407 from FM 2499 to Country Meadows Addition	438,039	438,039	0
Morriss Waterline Project PH III	1,800,000	0	1,800,000
Subtotal	**$3,938,039**	**$1,083,812**	**$2,899,227**
FACILITIES			
Town Hall	$10,000,000	$3,360,000	$6,640,000
Senior Citizen Activity Center	4,869,638	4,869,638	0
Library Renovation/Expansion	10,900,000	3,355,000	7,545,000
Subtotal	**$25,769,638**	**$11,584,638**	**$14,185,000**
PARKS			
Pink Evening Primrose Trail Connection (Bridge & Trail)	$400,000	$0	$400,000
Subtotal	**$400,000**	**$0**	**$400,000**
Improvements in Forum (Riverwalk) area	$730,000	$0	$730,000
Parking Structure	1,000,000	1,000,000	0
Subtotal	**$1,730,000**	**$1,000,000**	**$730,000**
Other Projects	$464,566	$0	$464,566
Town Center Master Plan	50,685	50,685	0
Retail Developments Shared Drive (FM 407 & Chinn Chapel)	180,000	180,000	0
Subtotal	**$695,251**	**$230,685**	**$464,566**
TOTAL	**$48,700,000**	**$24,137,314**	**$24,562,686**

Highlighted values indicate changes from 2019

Town of Flower Mound, Texas
Tax Increment Reinvestment Zone #1
As of September 30, 2020

TIRZ FUND

Beginning Balance:	
October 1, 2019	**$13,245,032**
Revenues:	
Property Tax	$6,606,311
Interest	$142,196
TOTAL REVENUES	**$6,748,507**
Expenditures:	
Land Purchases	$0
Professional Services	$0
Construction/Improvements	$2,434,546
Debt Service	$2,635,475
TOTAL EXPENDITURES	**$5,070,021**
Ending Balance:	
September 30, 2020 (unaudited)	**$14,923,518**

Town of Flower Mound, Texas
Tax Increment Reinvestment Zone #1
As of September 30, 2020

ANNUAL REPORT

Chapter 311.016 of V.C.T.A. requires the following information as part of the annual report on the status of the TIRZ District. Information is contained in detail on the attached financial statements.

1. **Amount and source of revenue in the tax increment fund established for the zone:**
   $6,748,507 Total Revenue
2. **Amount and purpose of expenditures from the fund:**
   $5,070,021 Total Expenditures
3. **Amount of Principal and Interest due on outstanding indebtedness is as follows:**
   $2,635,475 Total Principal and Interest

I. Contributions /Advances from developers— none.
II. Bonds issued and payment schedule to retire bonds—

2017COTIRZ:	Fiscal Year	Principal	Interest	Total
	2021	1,045,000	196,025	1,241,025
	2022	1,065,000	175,125	1,240,125
	2023	1,085,000	153,825	1,238,825
	2024	1,110,000	126,700	1,236,700
	2025	1,145,000	93,400	1,238,400
	2026	1,190,000	47,600	1,237,600
		$ 6,640,000	$ 792,675	$ 7,432,675

2018COTIRZ:	Fiscal Year	Principal	Interest	Total
	2021	1,185,000	215,850	1,400,850
	2022	1,210,000	192,150	1,402,150
	2023	1,230,000	167,950	1,397,950
	2024	1,270,000	131,050	1,401,050
	2025	1,305,000	92,950	1,397,950
	2026	1,345,000	53,800	1,398,800
		$ 7,545,000	$ 853,750	$ 8,398,750

4. **Tax Increment base and current captured appraised value retained by the zone:**

Taxing Jurisdiction	Net Taxable Fiscal Year Value 2019 - 2020	Base Year* Value Jan 1, 2005	Captured App. Value Fiscal Year 2019 - 2020
Town of Flower Mound	$1,265,401,078	$228,290,889	$1,037,110,189
Denton County	$1,315,269,604	$229,382,705	$1,085,886,899

5. **Captured appraised value by the municipality and other taxing units, the total amount of the tax increment received, and any additional information necessary to demonstrate compliance with the tax increment financing plan adopted by the governing body of the municipality.**

Town of Flower Mound, Texas
Tax Increment Reinvestment Zone #1
As of September 30, 2020

A. Captured appraised value shared by the municipality and other participating taxing jurisdictions received in Fiscal Year 2018-2019:

Taxing Jurisdiction	Participation Per $100/Value	Amount of 2019-2020 Increment
Town of Flower Mound (100%)	$0.436500	$4,526,985.97
Denton County (85%)	$0.191490	$2,079,324.65
Total	**$0.627990**	**$6,606,311**

B. Amount of tax increment received in 2019 from the municipality and the other taxing jurisdictions based on 2018 valuations: $6,606,311

C. Other information: None

* Base Year Value as of January 1, 2005 is for Fiscal Year 2005-2006.

TOWN COUNCIL AGENDA ITEM NO. 12

REGULAR ITEM

DATE: January 4, 2021

FROM: Chuck Russell, Principal Planner

ITEM: **Public Hearing to consider an ordinance amending the zoning (ZPD20-0005 - Niagara Conservation) from an Agricultural (A) Zoning district to Planned Development District No.179 (PD-179) with Campus Industrial uses. The property is generally located north of Enterprise Road and east of Old Gerault Road. (The Planning and Zoning Commission recommended approval of the rezoning request and denial of the exception request to Section 82-376 of the Town Code that requires overhead utilities to be placed underground by a vote of 6 to 0 at its November 9, 2020, meeting.) (The Town Council moved to postpone this item by a vote of 4 to 1 at its December 7, 2020, meeting.)**

SUMMARY DATA:

- Size – 7.594 acres
- Proposed Zoning – PD for Campus Industrial (CI) Uses
- Proposed Building – One 127,810 square-foot one-story office, warehouse and distribution building.
- SMARTGrowth – Passed
- Traffic Analysis – Passed, based on the TA, traffic generated is not anticipated to exceed the 5% threshold.
- Exceptions – N/A, the applicant was originally requesting an exception to the requirement to place utilities along Old Gerault Rd underground, but due to concerns expressed by P&Z, they have withdrawn this request.
- Incentives – Economic Incentives are being requested.

BACKGROUND INFORMATION: Attached is the Planning and Zoning Commission (P&Z) report and backup for this item.

During P&Z's deliberations on the exception, there was a question posed of whether Oncor, as the service provider, would allow the lines to be buried. This was relevant because if the utility service provider will not allow the lines to be buried, an exception is no longer required. Ultimately, P&Z recommended denial of the exception, based in part on the fact that Council had previously indicated a desire to see lines put underground with new development projects, and because no letter from the service provider had been received at that time.

The Commissioners also discussed the requirement and standards to rebuild Old Gerault adjacent to the subject property, truck traffic and turning movements into and out of the property and screening/landscaping related to the impact of the proposed building on existing residential uses to the west of Old Gerault Road.

On December 29, 2020, the applicant requested to postpone future consideration of their project until the February 1, 2021, Town Council meeting, so as to provide them with additional time to address concerns identified during the previous meetings. At the same time, they withdrew their request for an exception to the underground utilities requirement (Attachment 3).

ATTACHMENTS:
1. Planning and Zoning Commission Staff Report
2. Draft Ordinance
3. Email Requesting Extension

LEGAL REVIEW: Alicia Kreh, of Taylor, Olson, Adkins, Sralla, & Elam L.L.P., has reviewed the ordinance as to form and legality.

DRAFT MOTION: Move to approve as presented in the agenda caption.

PLANNING AND ZONING COMMISSION
AGENDA ITEM NO: 8
REGULAR ITEM

DATE: November 9, 2020

FROM: Chuck Russell, Principal Planner

ITEM: **Public Hearing to consider an ordinance amending the zoning (ZPD20-0005 - Niagara Conservation) from an Agricultural (A) Zoning district to Planned Development District No.179 (PD-179) with Campus Industrial uses, with certain waivers, exceptions and modifications to the Code of Ordinances. The property is generally located north of Enterprise Road and east of Old Gerault Road.**

I. ITEM SUMMARY

This application has been reviewed by DRC and determined to be ready for consideration by the Planning and Zoning Commission. There are no outstanding issues.

This application will require final action by the Town Council, which is scheduled for December 7, 2020.

II. APPLICATION ANALYSIS

The purpose of this application is to request approval of a Planned Development District (PD) to provide for an office, warehouse and distribution facility on a 7.59 acre unplatted parcel of land. The base zoning district for the proposed PD will be Campus Industrial District (CI), which is compatible with the existing Master Plan land use designation of Campus Industrial uses.

As part of the request, the applicant has asked for an exception to the Code of Ordinances (see Section III below, for detail):

Exception:

- **Underground Utilities:** The applicant is requesting an exception to Section 82-376 of the Town Code that requires overhead utilities to be placed underground.

The conceptual site plan provides for one 127,810 square-foot one-story building. Two points of access are being provided from Old Gerault Road, and the applicant is providing 80 of the required 100 parking spaces which is within the Town's allowable 20% deviation.

The conceptual plans [see Attachment B(1)] provide for a proposed development that complies with the development standards in the PD base zoning district (CI), as well as

required landscaping and buffering. The proposed conceptual elevations are in compliance with the Urban Design Plan

III. EXCEPTION

A. Exception to Section 82-376, Underground Utilities

Section 82-376 states that all existing overhead utilities, save and except transmission facilities identified in the Town Code, shall be placed underground in conjunction with the development of property, and prior to the Town's acceptance of the subdivision, subject to the certain provisions. Approximately 710 linear feet of overhead utility lines are located along the Old Gerault Road frontage.

IV. ENVIRONMENTAL CONSERVATION COMMISSION

On November 4, 2020, the Environmental Conservation Commission (ECC) recommended approval of the removal of 25 specimen trees on the subject property. The item will be forwarded to the Town Council for consideration at the same time as the subject project. The November 4, 2020 ECC meeting can be viewed here:

https://flowermoundtx.swagit.com/play/11042020-1046/6/

V. CORRESPONDENCE

The Town Code requires both public notice in a newspaper of general circulation (Denton Record Chronicle) and notification of the property owners within 200 feet of the subject property for all Zoning Amendment requests. Project No. ZPD20-0005 had a total of 39 Property Owner Notifications mailed. At the time this report was written, the Town had not received any items of correspondence in support or in opposition to the request.

VI. ATTACHMENTS

A. Background Information

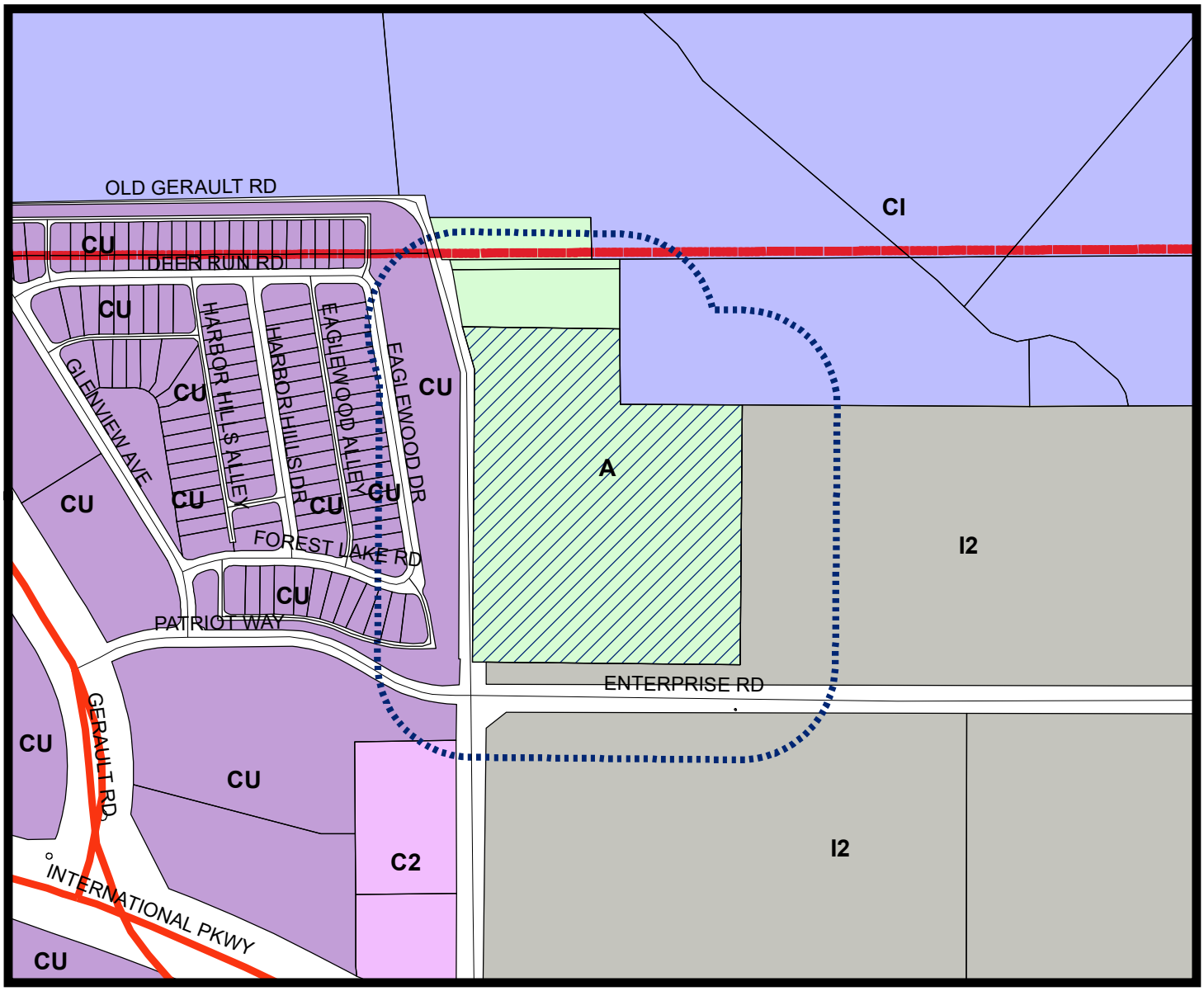
1. Vicinity Map
2. Letter of Intent

B. Application Details

1. Planned Development Zoning Package
2. Draft Planned Development (PD) Standards

Vicinity Map

Reference Project: ZPD20-0005

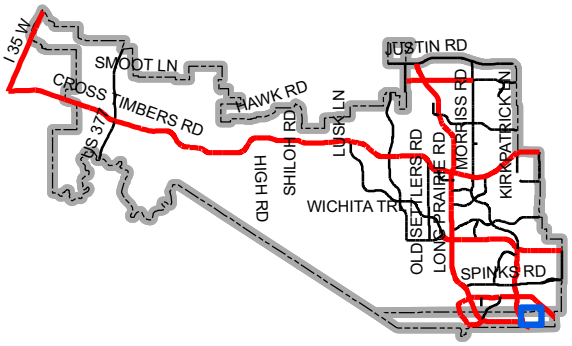


LEGEND

- Agriculture
- Campus Industrial
- *Combined Uses-See Ordinance
- Commercial 2
- Industrial 2

Subject Property

200 ft Notification Buffer around Property



Map Location

0 250 500 1,000 Feet

September 4, 2020

Mr. Chuck Russell, AICP
Principal Planner
Planning Services Division
Town of Flower Mound
2121 Cross Timbers Road
Flower Mound, TX 75028

Re: Letter of Intent – Niagara
300 Old Gerault Road, Flower Mound, TX

Dear Mr. Russell:

We want to thank you and your staff at the city for working so diligently with us to accelerate this complex project. As you know we are honored to be teaming up with the "best of the best" being Meinhardt & Associates, Pacheco Koch and Bella Firma. Our team in the past has had great success with the city and acknowledge you are an instrumental part of that process.

The intent of this letter is to begin the approval process as it pertains to a Site Plan Approval so that our client, Niagara, can fully understand development requirements prior to closing on the referenced property. Niagara is pleased to have the opportunity to continue to operate their business and work with the Town of Flower Mound with the mission of relocating and making it the location of their Headquarters.

Below are bullet points of related to the subject property:

- 7.53 acres (328,006 sq.ft.)
- Will need to be rezoned to Campus Industrial for Niagara's 127,810 square foot building.
- Site is currently zoned for agricultural in agricultural district.

The challenges the site poses are listed below:

- Tree Mitigation.
- Retaining Wall.
- Powerlines.
- Construction of Old Gerault Road.
- Topography and drainage issues.

As our plan is not to have the development consist of building in phases, but all at once, we would like the Town of Flower Mound to consider these special considerations: rezoning, set back variance, sewer, power line variance and a town tax break on shared road.

With the Town's assistance, we are confident we can make Niagara's Headquarters a permanent home in Flower Mound.

Sincerely,

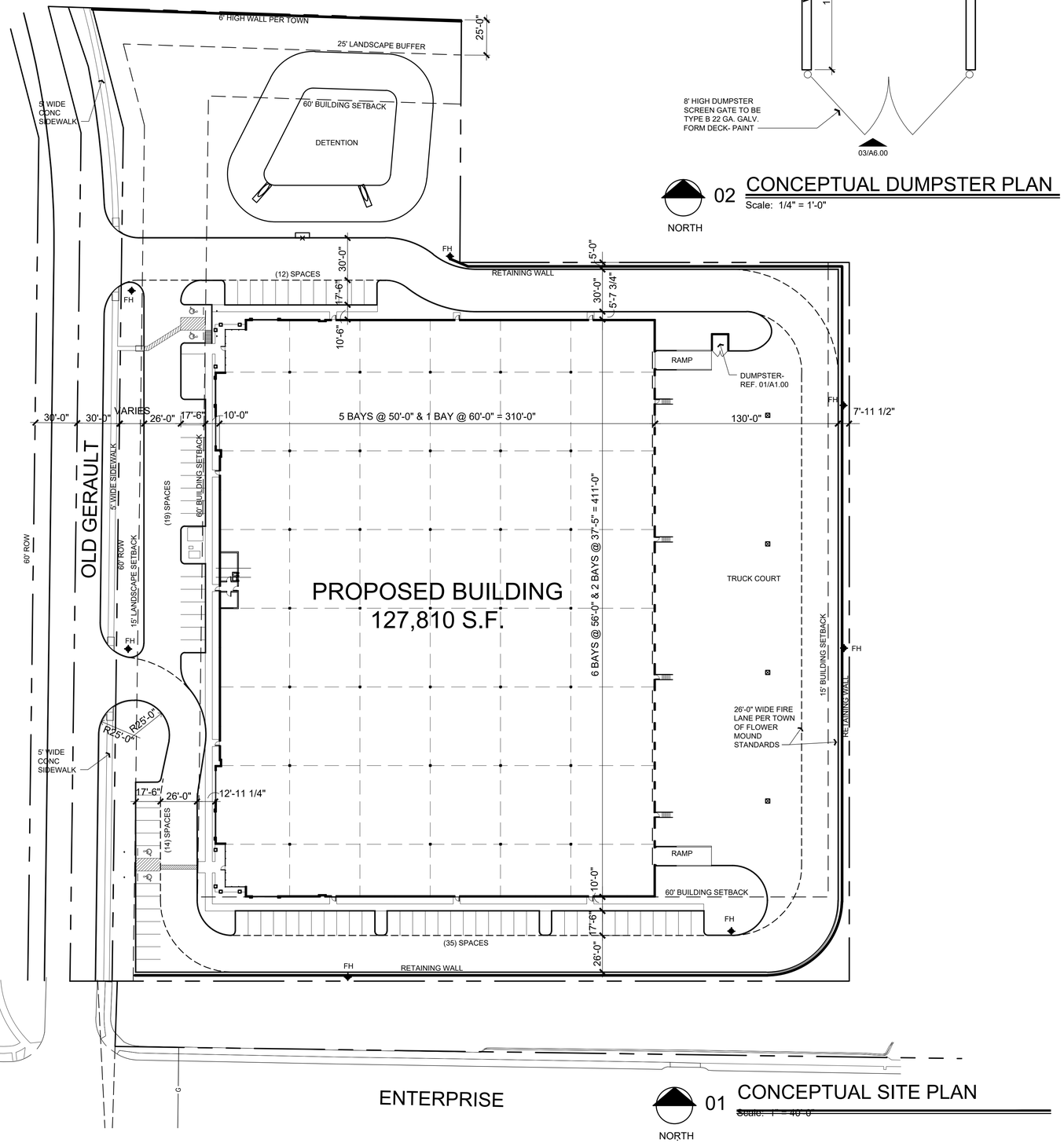
Tom Smolik

Tom C. Smolik, SIOR

TIG Real Estate Services, Inc.
4350 Beltway Dr, Addison, TX 75001
www.tigusa.com
Trusted Partner in Commercial Real Estate for 25 Years

Senior Vice President, Principal
214 697 9878 (C) | 972 661 0232 (O)
tsmolik@tigusa.com

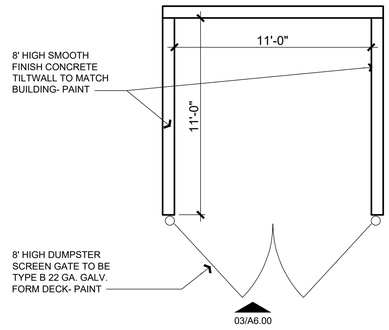
cc: Kyle Cutler
Alex Flores



NORTH

02 CONCEPTUAL DUMPSTER PLAN

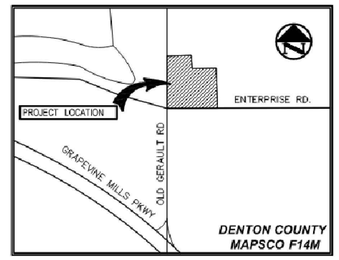
Scale: 1/4" = 1'-0"



NORTH

01 CONCEPTUAL SITE PLAN

Scale: 1" = 40'-0"



VICINITY MAP
(NOT TO SCALE)

GENERAL NOTES

1. ALL EXPOSED CONCRETE, INCLUDING BUT NOT LIMITED TO RETAINING/DETAINING WALLS, TURN-DOWN CURBS, AND TREE RETAINING WALLS, SHALL BE CLAD IN A MATERIAL TO MATCH THE MATERIALS ON THE MAIN BUILDING ON THE SITE.
2. OR ALL RETAINING/DETAINING WALLS SHALL BE CLAD IN A MATERIAL TO COMPLEMENT THE MATERIALS AND COLORS WITHIN THIS DEVELOPMENT.
3. ALL GROUND BASED MECHANICAL UNITS AND/OR EQUIPMENT SHALL BE SCREENED WITH LIVE SCREENING OR MASONRY ENCLOSURE. MASONRY ENCLOSURE SHALL BE CLAD IN A MATERIAL TO MATCH THE MATERIALS ON THE BUILDING.
4. ALL ROOF-MOUNTED MECHANICAL UNITS AND/OR EQUIPMENT SHALL BE SCREENED FROM VIEW IN ACCORDANCE WITH SECTION 82-273 OF THE LAND DEVELOPMENT REGULATIONS.
5. SIGNS REQUIRE A SEPARATE BUILDING PERMIT, ANY SIGNS DEPICTED ON THE SUBJECT SITE PLAN/ELEVATIONS ARE NOT APPROVED AS A PART OFTHIS REVIEW AND MUST COMPLY WITH ALL APPLICABLE TOWN REGULATIONS.

SITE DATA TABLE

PHYSICAL ADDRESS	XX OLD GERAULT	
GROSS SITE AREA	7.59 AC and 330,789 SF	
NET SITE AREA	4.66 AC and 202,979 SF	
ZONING	CI (CAMPUS INDUSTRIAL)	
CURRENT USE	AGRICULTURAL	
LOT COVERAGE DATA		
BUILDING COVERAGE	41% / 127,810 S.F	
IMPERVIOUS AREA	40% / 122,102 S.F.	
PERVIOUS AREA	19% / 59,967 S.F.	
PARKING SUMMARY	REQUIRED	PROVIDED
SURFACE PARKING		
OFFICE	42.6	43
WAREHOUSE	57.5	57
SUB TOTAL PARKING	100.1	
20% REDUCTION	-20	-20
TOTAL PARKING	80	80
BUILDING DATA		
BUILDING	1 STORY	
PEAK HEIGHT	45 FEET and 0 INCHES	
MEAN HEIGHT	40 FEET and 3 INCHES	
TOTAL SQUARE FOOTAGE	127,810 SF	

TIG

BUILD TO SUIT For

NIAGARA CONSERVATION ON OLD GERAULT

FLOWER MOUND, TEXAS

MEINHARDT & ASSOCIATES ARCHITECTS, P.L.L.C
14643 DALLAS PARKWAY
SUITE 636
DALLAS TEXAS 75254
972 960-8660

NOT FOR REGULATORY APPROVAL, PERMITTING, OR CONSTRUCTION

DATE: 09.04.2020

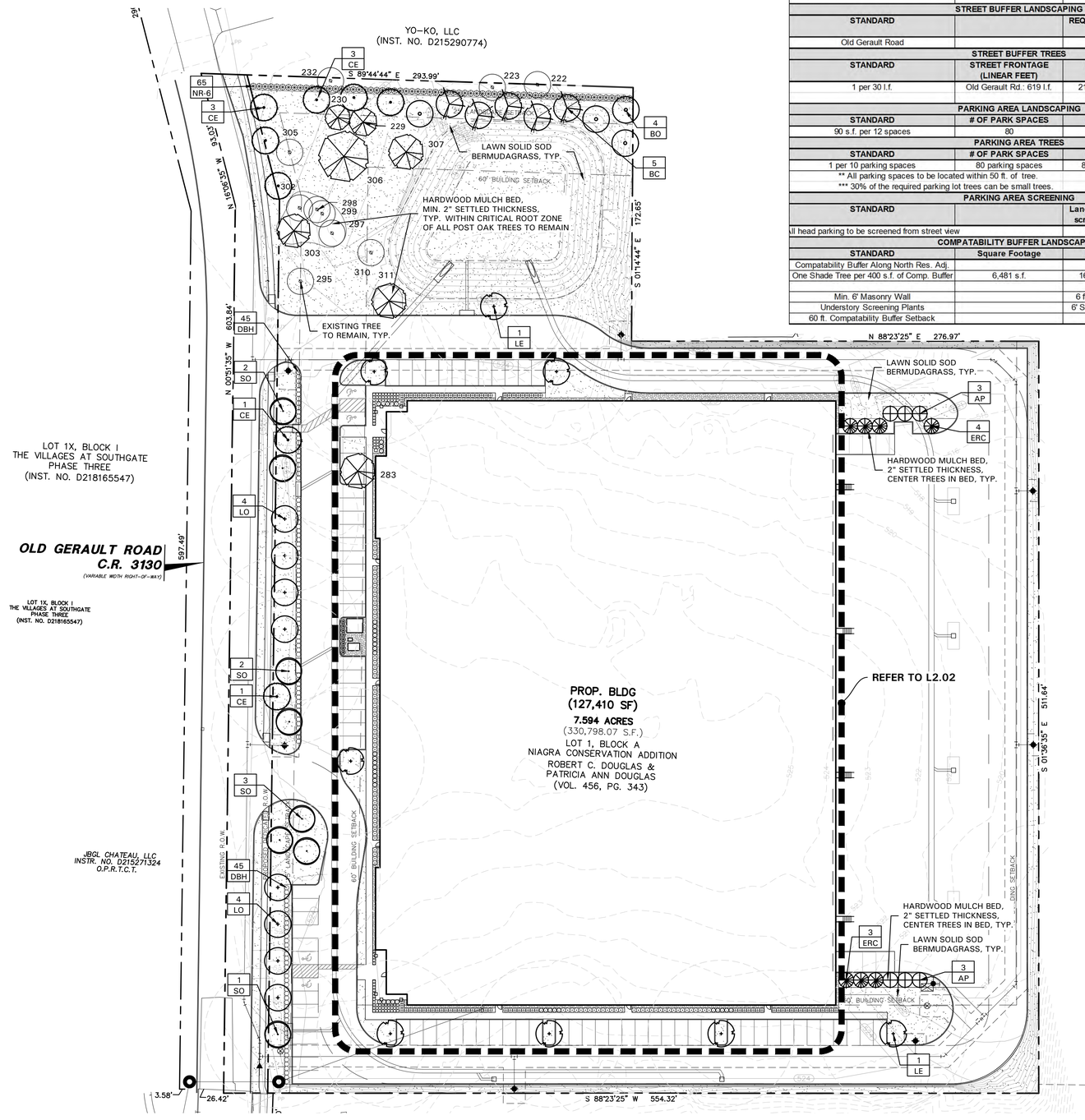
JOB # 20-204

SITE PLAN

SHEET:

A1.00

G:\MISC\20204-TIG Niagara\CDs Shell\CDs\204-A100series.dwg, 9/4/2020 10:46:02 AM, 1:1



THE TOWN OF FLOWER MOUND - LANDSCAPE CONFORMANCE CHART			
STREET YARD LANDSCAPING			
STANDARD	**TOTAL STREET YARD**	**REQUIRED**	**PROVIDED**
Min. 20% of street yard	48,492 s.f.	9,698 s.f. 20%	23,144 s.f. 47%
STREET YARD TREES			
STANDARD	**TOTAL STREET YARD (SQUARE FEET)**	**REQUIRED**	**PROVIDED**
Between 10,000 and 110,000 s.f. = 10 Trees + 1 Tree for every 2,500 s.f. over 10,000 s.f.	50,590 s.f. of Street Yard	26 Trees, 3" cal.	26 Trees, 3" cal.
STREET BUFFER LANDSCAPING			
STANDARD		**REQUIRED BUFFER WIDTH**	**PROVIDED**
Old Gerault Road		15 ft.	15 ft.
STREET BUFFER TREES			
STANDARD	**STREET FRONTAGE (LINEAR FEET)**	**REQUIRED**	**PROVIDED**
1 per 30 l.f.	Old Gerault Rd.: 619 l.f.	21 Trees, 3" cal.	18 Trees, 3" cal. 3 existing trees
PARKING AREA LANDSCAPING			
STANDARD	**# OF PARK SPACES**	**REQUIRED**	**PROVIDED**
90 s.f. per 12 spaces	80	600 s.f.	2,478 s.f.
PARKING AREA TREES			
STANDARD	**# OF PARK SPACES**	**REQUIRED**	**PROVIDED**
1 per 10 parking spaces	80 parking spaces	8 trees, 3" cal.	9 trees, 3" cal.
** All parking spaces to be located within 50 ft. of tree.			1 existing tree
*** 30% of the required parking lot trees can be small trees.			
PARKING AREA SCREENING			
STANDARD		**Landscape berm or screening shrubs**	**PROVIDED**
ll head parking to be screened from street view		3' ht. Screen	Screening shrubs (3' ht.)
COMPATABILITY BUFFER LANDSCAPING			
STANDARD	**Square Footage**	**REQUIRED**	**PROVIDED**
Compatability Buffer Along North Res. Adj.		25 ft.	25 ft.
One Shade Tree per 400 s.f. of Comp. Buffer	6,481 s.f.	16 trees, 3" cal.	13 trees, 3" cal. 3 existing trees
Min. 6' Masonry Wall		6 ft. masonry wall	6 ft. masonry wall
Understory Screening Plants		6' Screening Shrubs	6' Screening Shrubs
60 ft. Compatability Buffer Setback		60 ft.	60 ft.

LANDSCAPE NOTES

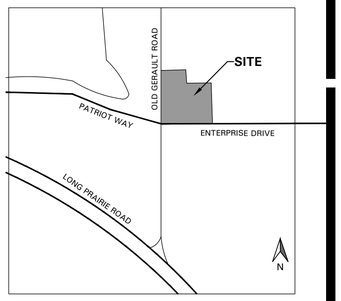
1. CONTRACTOR SHALL VERIFY ALL EXISTING AND PROPOSED SITE ELEMENTS AND NOTIFY LANDSCAPE ARCHITECT OF ANY DISCREPANCIES. SURVEY DATA OF EXISTING CONDITIONS WAS SUPPLIED BY OTHERS.
2. CONTRACTOR SHALL LOCATE ALL EXISTING UNDERGROUND UTILITIES AND NOTIFY LANDSCAPE ARCHITECT OF ANY CONFLICTS. CONTRACTOR SHALL EXERCISE CAUTION WHEN WORKING IN THE VICINITY OF UNDERGROUND UTILITIES.
3. CONTRACTOR SHALL PROVIDE A MINIMUM 2% SLOPE AWAY FROM ALL STRUCTURES.
4. CONTRACTOR SHALL FINE GRADE AREAS TO ACHIEVE FINAL CONTOURS AS INDICATED. LEAVE AREAS TO RECEIVE TOPSOIL 3" BELOW FINAL FINISHED GRADE IN PLANTING AREAS AND 1" BELOW FINAL FINISHED GRADE IN LAWN AREAS.
5. ALL PLANTING BEDS AND LAWN AREAS SHALL BE SEPARATED BY STEEL EDGING. NO STEEL EDGING SHALL BE INSTALLED ADJACENT TO BUILDINGS, WALKS, OR CURBS. CUT STEEL EDGING AT 45 DEGREE ANGLE WHERE IT INTERSECTS WALKS AND CURBS.
6. TOP OF MULCH SHALL BE 1/2" MINIMUM BELOW THE TOP OF WALKS AND CURBS.
7. ALL LAWN AREAS SHALL BE SOLID SOD BERMUDAGRASS, UNLESS OTHERWISE NOTED ON THE DRAWINGS.
8. ALL REQUIRED LANDSCAPE AREAS SHALL BE PROVIDED WITH AN AUTOMATIC UNDERGROUND IRRIGATION SYSTEM WITH RAIN AND FREEZE SENSORS AND EVAPOTRANSPIRATION (ET) WEATHER-BASED CONTROLLERS AND SAID IRRIGATION SYSTEM SHALL BE DESIGNED BY A QUALIFIED PROFESSIONAL AND INSTALLED BY A LICENSED IRRIGATOR.
9. CONTRACTOR SHALL PROVIDE BID PROPOSAL LISTING UNIT PRICES FOR ALL MATERIAL PROVIDED.
10. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL REQUIRED LANDSCAPE AND IRRIGATION PERMITS.

MAINTENANCE NOTES

1. THE OWNER, TENANT AND THEIR AGENT, IF ANY, SHALL BE JOINTLY AND SEVERALLY RESPONSIBLE FOR THE MAINTENANCE OF ALL LANDSCAPE.
2. ALL LANDSCAPE SHALL BE MAINTAINED IN A NEAT AND ORDERLY MANNER AT ALL TIMES. THIS SHALL INCLUDE MOWING, EDGING, PRUNING, FERTILIZING, WATERING, WEEDING AND OTHER SUCH ACTIVITIES COMMON TO LANDSCAPE MAINTENANCE.
3. ALL LANDSCAPE AREAS SHALL BE KEPT FREE OF TRASH, LITTER, WEEDS AND OTHER SUCH MATERIAL OR PLANTS NOT PART OF THIS PLAN.
4. ALL PLANT MATERIAL SHALL BE MAINTAINED IN A HEALTHY AND GROWING CONDITION AS IS APPROPRIATE FOR THE SEASON OF THE YEAR.
5. ALL PLANT MATERIAL WHICH DIES SHALL BE REPLACED WITH PLANT MATERIAL OF EQUAL OR BETTER VALUE.
6. CONTRACTOR SHALL PROVIDE SEPARATE BID PROPOSAL FOR ONE YEAR'S MAINTENANCE TO BEGIN AFTER FINAL ACCEPTANCE.

VICINITY MAP

NOT TO SCALE



GENERAL LAWN NOTES

1. CONTRACTOR SHALL COORDINATE OPERATIONS AND AVAILABILITY OF EXISTING TOPSOIL WITH ON-SITE CONSTRUCTION MANAGER.
2. CONTRACTOR SHALL LEAVE LAWN AREAS 1" BELOW FINAL FINISHED GRADE PRIOR TO TOPSOIL INSTALLATION.
3. CONTRACTOR SHALL FINE GRADE AREAS TO ACHIEVE FINAL CONTOURS AS INDICATED ON CIVIL PLANS. ADJUST CONTOURS TO ACHIEVE POSITIVE DRAINAGE AWAY FROM BUILDINGS. PROVIDE UNIFORM ROUNDING AT TOP AND BOTTOM OF SLOPES AND OTHER BREAKS IN GRADE. CORRECT IRREGULARITIES AND AREAS WHERE WATER MAY STAND.
4. ALL LAWN AREAS SHALL BE FINE GRADED, IRRIGATION TRENCHES COMPLETELY SETTLED AND FINISH GRADE APPROVED BY THE OWNER'S CONSTRUCTION MANAGER OR LANDSCAPE ARCHITECT PRIOR TO LAWN INSTALLATION.
5. CONTRACTOR SHALL REMOVE ALL ROCKS 3/4" DIAMETER AND LARGER, DIRT CLODS, STICKS, CONCRETE SPOILS, ETC. PRIOR TO PLACING TOPSOIL AND LAWN INSTALLATION.
6. CONTRACTOR SHALL MAINTAIN ALL LAWN AREAS UNTIL FINAL ACCEPTANCE. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO: MOWING, WATERING, WEEDING, CULTIVATING, CLEANING AND REPLACING DEAD OR BARE AREAS TO KEEP PLANTS IN A VIGOROUS, HEALTHY CONDITION.
7. CONTRACTOR SHALL GUARANTEE ESTABLISHMENT OF ACCEPTABLE TURF AREA AND SHALL PROVIDE REPLACEMENT FROM LOCAL SUPPLY IF NECESSARY.

SOLID SOD NOTES

1. PLANT SOD BY HAND TO COVER INDICATED AREAS COMPLETELY. ENSURE EDGES OF SOD ARE TOUCHING. TOP DRESS JOINTS BY HAND WITH TOPSOIL TO FILL VOIDS.
2. ROLL GRASS AREAS TO ACHIEVE A SMOOTH, EVEN SURFACE, FREE FROM UNNATURAL UNDULATIONS.
3. WATER SOD THOROUGHLY AS SOD OPERATION PROGRESSES.
4. IF INSTALLATION OCCURS BETWEEN SEPTEMBER 1 AND MARCH 1, OVER-SEED BERMUDAGRASS SOD WITH WINTER RYEGRASS, AT A RATE OF FOUR (4) POUNDS PER ONE THOUSAND (1000) SQUARE FEET.

PLANT LIST

SYMBOL	BOTANICAL NAME	COMMON NAME	QTY.	SIZE	REMARKS
	TREES				
AP	*Pinus nigra*	Austrian Pine	6	6' ht.	B&B or container grown, full to base, 3' spread
BC	*Taxodium distichum*	Bald Cypress	5	3" cal.	container grown, 12' ht., 4' spread, 4' branching ht., matching
BO	*Quercus macrocarpa*	Bur Oak	4	3" cal.	container grown, 12' ht., 4' spread, 4' branching ht., matching
CE	*Ulmus crassifolia*	Cedar Elm	8	3" cal.	B&B, 12' ht., 4' spread, 4' branching ht., matching
ERC	*Juniperus virginiana*	Eastern Redcedar	7	6' ht.	container grown, full to base, 3' spread
LE	*Ulmus parvifolia 'Sempervirens'*	Lacebark Elm	8	3" cal.	container grown, 12' ht., 4' spread, 4' branching ht., matching
LO	*Quercus virginiana*	Live Oak	8	3" cal.	container grown, 12' ht., 4' spread, 4' branching ht., matching
SO	*Quercus shumardii*	Shumard Red Oak	8	3" cal.	container grown, 12' ht., 4' spread, 4' branching ht., matching
	SHRUBS/GROUNDCOVER				
DBH	*Ilex cornuta 'Dwarf Burford'*	Dwarf Burford Holly	120	5 gal.	container full, 24" spread, 36" o.c.
IH	*Raphiolepsis indica 'Jack Evans'*	Indian Hawthorne 'Jack Evans'	85	5 gal.	container full, 20" spread, 36" o.c.
LOR	*Loropetalum chinensis 'Plum Delight'*	Loropetalum 'Plum Delight'	85	5 gal.	container full, 20" spread, 36" o.c.
MIS	*Miscanthus sinensis 'Adagio'*	Miscanthus 'Adagio'	39	5 gal.	container full, 36" o.c.
NRS	*Ilex spp. 'Nellie R. Stevens'*	Nellie R. Stevens Holly	8	7 gal.	container full to base, 36" ht., 36" o.c.
NR-6	*Ilex spp. 'Nellie R. Stevens'*	Nellie R. Stevens Holly	65	15 gal.	container full to base, 36" ht., 48" o.c.
SG	*Salvia greggii 'Red'*	Salvia Greggii	84	5 gal.	container full, 20" spread 24" o.c.

NOTE: ALL TREES SHALL HAVE STRAIGHT TRUNKS AND BE MATCHING WITHIN VARIETIES.
PLANT LIST IS AN AID TO BIDDERS ONLY. CONTRACTOR SHALL VERIFY ALL QUANTITIES ON PLAN.
ALL HEIGHTS AND SPREADS ARE MINIMUMS. ALL PLANT MATERIAL SHALL MEET OR EXCEED REMARKS AS INDICATED.

N

SCALE: 1" = 40'-0"
0 20 40 80

BELLE FIRMA

4245 North Central Expy
Suite 501
Dallas, Texas 75205
214.865.7192 office

TIG

BUILD TO SUIT For

NIAGARA CONSERVATION ON OLD GERAULT

FLOWER MOUND, TEXAS

MEINHARDT & ASSOCIATES ARCHITECTS, P.L.L.C
14643 DALLAS PARKWAY
SUITE 635
DALLAS TEXAS 75254
972 960-8965

REGISTERED LANDSCAPE ARCHITECT
TERRI ANN HALL
2246
STATE OF TEXAS

11.4.20

DATE: 08.03.2020

JOB # 20-204

CONCEPTUAL LANDSCAPE PLAN

SHEET:

L2.01

PROP. BLDG
(127,410 SF)

7.594 ACRES
(330,798.07 S.F.)

LOT 1, BLOCK A
NIAGRA CONSERVATION ADDITION
ROBERT C. DOUGLAS &
PATRICIA ANN DOUGLAS
(VOL. 456, PG. 343)

'COLORADO' RIVER ROCK,
2"-4" DIA., 4" DEPTH
WITH WEED BARRIER FABRIC, TYP.

LAWN SOLID SOD
BERMUDAGRASS, TYP.

HARDWOOD MULCH BED,
2" SETTLED THICKNESS,
TYP. WITHIN CRITICAL ROOT ZONE
OF ALL POST OAK TREES TO REMAIN

'COLORADO' RIVER ROCK,
2"-4" DIA., 4" DEPTH
WITH WEED BARRIER FABRIC, TYP.

LAWN SOLID SOD
BERMUDAGRASS, TYP.

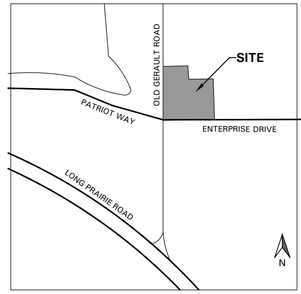
EXISTING TREE
TO REMAIN, TYP.

60' BUILDING SETBACK

283

1 LE
9 LOR
23 LOR
5 MIS
35 SG
3 MIS
9 SG
4 IH
12 IH
8 MIS
5 IH
15 IH
8 MIS
13 IH
4 IH
5 SG
8 NRS
15 LOR
7 LOR
5 MIS
18 IH
14 IH
5 MIS
8 LOR
23 LOR
35 SG

VICINITY MAP
NOT TO SCALE



PLANT LEGEND

SYMBOL	COMMON NAME
AP	Austrian Pine
BC	Bald Cypress
BO	Bur Oak
CE	Cedar Elm
ERC	Eastern Redcedar
LE	Lacebark Elm
LO	Live Oak
SO	Shumard Red Oak
DBH	Dwarf Burford Holly
IH	Indian Hawthorne 'Jack Evans'
LOR	Loropetalum 'Plum Delight'
MIS	Miscanthus 'Adagio'
NRS	Nellie R. Stevens Holly
NR-6	Nellie R. Stevens Holly
SG	Salvia Greggii

REFER TO L2.01 FOR PLANT LIST

SCALE: 1" = 20'-0"
0 10 20 40

BELLE FIRMA
4245 North Central Expy
Suite 501
Dallas, Texas 75205
214.865.7192 office

TIG

BUILD TO SUIT For

NIAGARA CONSERVATION ON OLD GERAULT

FLOWER MOUND, TEXAS

MEINHARDT & ASSOCIATES
ARCHITECTS, P.L.L.C
14643 DALLAS PARKWAY
SUITE 638
DALLAS TEXAS 75254
972 960-8885

REGISTERED LANDSCAPE ARCHITECT
CHERI ANN HALL
2246
STATE OF TEXAS
09.30.20

DATE: 08.03.2020

JOB # 20-204

CONCEPTUAL LANDSCAPE ENLARGEMENT PLAN

SHEET:

L2.02

SECTION 32 9300 - LANDSCAPE

PART 1 - GENERAL

1.1 REFERENCED DOCUMENTS

A. Refer to Landscape Plans, notes, details, bidding requirements, special provisions, and schedules for additional requirements.

1.2 DESCRIPTION OF WORK

A. Work included: Furnish all supervision, labor, materials, services, equipment and appliances required to complete the work covered in conjunction with the landscaping covered in these specifications and landscaping plans, including:

1. Planting (trees, shrubs and grasses)
2. Bed preparation and fertilization
3. Notification of sources
4. Water and maintenance until final acceptance
5. Guarantee

1.3 REFERENCE STANDARDS

A. American Standard for Nursery Stock published by American Association of Nurserymen: April 14, 2014 Edition; by American National Standards Institute, Inc. (Z60.1) – plant material

B. American Joint Committee on Horticultural Nomenclature: 1942 Edition of Standardized Plant Names.

C. Texas Association of Nurserymen, Grades and Standards

D. Hortis Third, 1976 - Cornell University

1.4 NOTIFICATION OF SOURCES AND SUBMITTALS

A. Samples: Provide representative quantities of sandy loam soil, mulch, bed mix material, gravel, crushed stone, steel edging and tree stakes. Samples shall be approved by Owner's Authorized Representative before use on the project.

1.5 JOB CONDITIONS

A. General Contractor to complete the following punch list: Prior to Landscape Contractor initiating any portion of landscape installation, General Contractor shall leave planting bed areas three (3") inches below final finish grade of sidewalks, drives and curbs as shown on the drawings. All lawn areas to receive solid sod shall be left one (1") inch below the final finish grade of sidewalks, drives and curbs. All construction debris shall be removed prior to Landscape Contractor beginning any work.

B. Storage of materials and equipment at the job site will be at the risk of the Landscape Contractor. The Owner cannot be held responsible for theft or damage.

1.6 MAINTENANCE AND GUARANTEE

A. Maintenance:

1. The Landscape Contractor shall be held responsible for the maintenance of all work from the time of planting until final acceptance by the Owner. No trees, shrubs, groundcover or grass will be accepted unless they show healthy growth and satisfactory foliage conditions.
2. Maintenance shall include watering of trees and plants, cultivation, weeding spraying, edging, pruning of trees, mowing of grass, cleaning up and all other work necessary of maintenance.
3. A written notice requesting final inspection and acceptance should be submitted to the Owner at least seven (7) days prior to completion. An on-site inspection by the Owner's Authorized Representative will be completed prior to written acceptance.

B. Guarantee:

1. Trees, shrubs and groundcover shall be guaranteed for a twelve (12) month period after final acceptance. The Contractor shall replace all dead materials as soon as weather permits and upon notification of the Owner. Plants, including trees, which have partially died so that shape, size, or symmetry have been damaged, shall be considered subject to replacement. In such cases, the opinion of the Owner shall be final.
   a. Plants used for replacement shall be of the same size and kind as those originally planted and shall be planted as originally specified. All work, including materials, labor and equipment used in replacements, shall carry a twelve (12) month guarantee. Any damage, including ruts in lawn or bed areas, incurred as a result of making replacements shall be immediately repaired.
   b. At the direction of the Owner, plants may be replaced at the start of the next year's planting season. In such cases, dead plants shall be removed from the premises immediately.
   c. When plant replacements are made, plants, soil mix, fertilizer and mulch are to be utilized as originally specified and re-inspected for full compliance with the contract requirements. All replacements are to be included under "Work" of this section.
2. The Owner agrees that for the guarantee to be effective, he will water plants at least twice a week during dry periods and cultivate beds once a month after final acceptance.
3. The above guarantee shall not apply where plants die after acceptance because of injury from storms, hail, freeze, insects, diseases, injury by humans, machines or theft.
4. Acceptance for all landscape work shall be given after final inspection by the Owner provided the job is in a complete, undamaged condition and there is a stand of grass in all lawn areas. At that time, the Owner will assume maintenance on the accepted work.

C. Repairs: Any necessary repairs under the Guarantee must be made within ten (10) days after receiving notice, weather permitting. In the event the Landscape Contractor does not make repairs accordingly, the Owner, without further notice to Contractor, may provide materials and men to make such repairs at the expense to the Landscape Contractor.

1.7 QUALITY ASSURANCE

A. General: Comply with applicable federal, state, county and local regulations governing landscape materials and work.

B. Personnel: Employ only experienced personnel who are familiar with the required work. Provide full time supervision by a qualified foreman acceptable to Landscape Architect.

C. Selection of Plant Material:
1. Make contact with suppliers immediately upon obtaining notice of contract acceptance to select and book materials. Develop a program of maintenance (pruning and fertilization) which will ensure the purchased materials will meet and / or exceed project specifications.
2. Substitutions: Do not make plant material substitutions. If the specified landscape material is not obtainable, submit proof of non-availability to Landscape Architect, together with proposal for use of equivalent material. At the time bids are submitted, the Contractor is assumed to have located the materials necessary to complete the job as specified.
3. Landscape Architect will provide a key identifying each tree location on site. Written verification will be required to document material selection, source and delivery schedules to site.
4. Measurements: Measure trees with branches and trunks or canes in their normal position. Do not prune to obtain required sizes. Take caliper measurements six inches above ground for trees up to and including 4" caliper size, and twelve inches above ground for larger sizes. Measure main body of all plant material of height and spread dimensions, do not measure from branch or root tip-to-tip.
5. Owner's Authorized Representative shall inspect all plant material with requirements for genus, species, cultivar / variety size and quality.
6. Owner's Authorized Representative retains the right to further inspect all plant material upon arrival to the site and during installation for size and condition of root balls and root systems, limbs, branching habit, insects, injuries and latent defects.
7. Owner's Authorized Representative may reject unsatisfactory or defective material at any time during the process work. Remove rejected materials immediately from the site and replace with acceptable material at no additional cost to the Owner. Plants damaged in transit or at job site shall be rejected.

1.8 PRODUCT DELIVERY, STORAGE AND HANDLING

A. Preparation:
1. Balled and Burlapped (B&B) Plants: Dig and prepare shipment in a manner that will not damage roots, branches, shape and future development.
2. Container Grown Plants: Deliver plants in rigid container to hold ball shape and protect root mass.

B. Delivery:
1. Deliver packaged materials in sealed containers showing weight, analysis and name of manufacturer. Protect materials from deterioration during delivery and while stored on site.
2. Deliver only plant materials that can be planted in one day unless adequate storage and watering facilities are available on job site.
3. Protect root balls by heeling in with sawdust or other approved moisture retaining material if not planted within 24 hours of delivery.
4. Protect plants during delivery to prevent damage to root balls or desiccation of leaves. Keep plants moist at all times. Cover all materials during transport.
5. Notify Owner's Authorized Representative of delivery schedule 72 hours in advance job site.
6. Remove rejected plant material immediately from job site.
7. To avoid damage or stress, do not lift, move, adjust to plumb, or otherwise manipulate plants by trunk or stems.

PART 2 - PRODUCTS

2.1 PLANTS

A. General: Well-formed No. 1 grade or better nursery grown stock. Listed plant heights are from tops of root balls to nominal tops of plants. Plant spread refers to nominal outer width of the plant, not to the outer leaf tips. Plants will be individually approved by the Owner's Authorized Representative and his decision as to their acceptability shall be final.

B. Quantities: The drawings and specifications are complimentary. Anything called for on one and not the other is as binding as if shown and called for on both. The plant schedule is an aid to bidders only. Confirm all quantities on plan.

C. Quality and size: Plant materials shall conform to the size given on the plan, and shall be healthy, symmetrical, well-shaped, full branched and well rooted. The plants shall be free from injurious insects, diseases, injuries to the bark or roots, broken branches, objectionable disfigurements, insect eggs and larvae, and are to be of specimen quality.

D. Approval: All plants which are found unsuitable in growth, or are in any unhealthy, badly shaped or undersized condition will be rejected by the Owner's Authorized Representative either before or after planting and shall be removed at the expense of the Landscape Contractor and replaced with acceptable plant as specified at no additional cost to the Owner.

E. Trees shall be healthy, full-branched, well-shaped, and shall meet the minimum trunk and diameter requirements of the plant schedule. Balls shall be firm, neat, slightly tapered and well wrapped in burlap. Any tree loose in the ball or with a broken root ball at time of planting will be rejected. Balls shall be ten (10") inches in diameter for each one (1") inch of trunk diameter, measured six (6") inches above ball. (Nomenclature confirms to the customary nursery usage. For clarification, the term "multi-trunk" defines a plant having three (3) or more trunks of nearly equal diameter.)

F. Pruning: All pruning of trees and shrubs, as directed by the Landscape Architect prior to final acceptance, shall be executed by the Landscape Contractor at no additional cost to the Owner.

2.2 SOIL PREPARATION MATERIALS

A. Sandy Loam:
1. Friable, fertile, dark, loamy soil, free of clay lumps, subsoil, stones and other extraneous material and reasonably free of weeds and foreign grasses. Loam containing Dallasgrass or Nutgrass shall be rejected.
2. Physical properties as follows:
   a. Clay – between 7-27 percent
   b. Silt – between 15-25 percent
   c. Sand – less than 52 percent
3. Organic matter shall be 3%-10% of total dry weight.
4. If requested, Landscape Contractor shall provide a certified soil analysis conducted by an approved soil testing laboratory verifying that sandy loam meets the above requirements.

B. Organic Material: Compost with a mixture of 80% vegetative matter and 20% animal waste. Ingredients should be a mix of course and fine textured material.

C. Premixed Bedding Soil as supplied by Vital Earth Resources, Gladewater, Texas; Professional Bedding Soil as supplied by Living Earth Technology, Dallas, Texas or Acid Gro Municipal Mix as supplied by Soil Building Systems, Dallas, Texas or approved equal.

D. Sharp Sand: Sharp sand must be free of seeds, soil particles and weeds.

E. Mulch: Double Shredded Hardwood Mulch, partially decomposed, dark brown. Living Earth Technologies or approved equal.

F. Organic Fertilizer: Fertilaid, Sustane, or Green Sense or equal as recommended for required applications. Fertilizer shall be delivered to the site in original unopened containers, each bearing the manufacturer's guaranteed statement of analysis.

G. Commercial Fertilizer: 10-20-10 or similar analysis. Nitrogen source to be a minimum 50% slow release organic Nitrogen (SCU or UF) with a minimum 8% sulfur and 4% iron, plus micronutrients.

H. Peat: Commercial sphagnum peat moss or partially decomposed shredded pine bark or other approved organic material.

2.3 MISCELLANEOUS MATERIALS

A. Steel Edging: All steel edging shall be 3/16" thick x 4" deep x 16' long with 6 stakes per section, painted black at the factory as manufactured by The J.D. Russell Company and under its trade name DURAEDGE Heavy Duty Steel.

B. Staking Material for Shade Trees: refer to details.

C. Gravel: Washed native pea gravel, graded 1 inch to 1-1/2 inch.

D. Filter Fabric: 'Mirafi Mirascape' by Mirafi Construction Products available at Lone Star Products, Inc., (469) 523-0444 or approved equal.

E. River Rock: 'Colorado' or native river rock, 2" - 4" dia.

F. Decomposed Granite: Base material shall consist of a natural material mix of granite aggregate not to exceed 1/8" diameter in size and shall be composed of various stages of decomposed earth base.

PART 3 - EXECUTION

3.1 BED PREPARATION & FERTILIZATION

A. Landscape Contractor to inspect all existing conditions and report any deficiencies to the Owner.

B. All planting areas shall be conditioned as follows:
1. Prepare new planting beds by scraping away existing grass and weeds as necessary. Till existing soil to a depth of six (6") inches prior to placing compost and fertilizer. Apply fertilizer as per Manufacturer's recommendations. Add six (6") inches of compost and till into a depth of six (6") inches of the topsoil. Apply organic fertilizer such as Sustane or Green Sense at the rate of twenty (20) pounds per one thousand (1,000) square feet.
2. All planting areas shall receive a two (2") inch layer of specified mulch.
3. Backfill for tree pits shall be as follows: Use existing top soil on site (use imported topsoil as needed) free from large clumps, rocks, debris, caliche, subsoils, etc., placed in nine (9") inch layers and watered in thoroughly.

C. Grass Areas:
1. Blocks of sod should be laid joint to joint (staggered joints) after fertilizing the ground first. Roll grass areas to achieve a smooth, even surface. The joints between the blocks of sod should be filled with topsoil where they are evidently gaped open, then watered thoroughly.

3.2 INSTALLATION

A. Maintenance of plant materials shall begin immediately after each plant is delivered to the site and shall continue until all construction has been satisfactorily accomplished.

B. Plant materials shall be delivered to the site only after the beds are prepared and areas are ready for planting. All shipments of nursery materials shall be thoroughly protected from the drying winds during transit. All plants which cannot be planted at once, after delivery to the site, shall be well protected against the possibility of dryin by wind and Balls of earth of B & B plants shall be kept covered with soil or other acceptable material. All plants remain the property of the Contractor until final acceptance.

C. Position the trees and shrubs in their intended location as per plan.

D. Notify the Owner's Authorized Representative for inspection and approval of all positioning of plant materials.

E. Excavate pits with vertical sides and horizontal bottom. Tree pits shall be large enough to permit handling and planting without injury to balls of earth or roots and shall be of such depth that,when planted and settled, the crown of the plant shall bear the same relationship to the finish grade as it did to soil surface in original place of growth.

F. Shrub and tree pits shall be no less than twenty-four (24") inches wider than the lateral dimension of the earth ball and six (6") inches deeper than it's vertical dimension. Remove and haul from site all rocks and stones over three-quarter (¾") inch in diameter. Plants should be thoroughly moist before removing containers.

G. Dig a wide, rough sided hole exactly the same depth as the height of the ball, especially at the surface of the ground. The sides of the hole should be rough and jagged, never slick or glazed.

H. Percolation Test: Fill the hole with water. If the water level does not percolate within 24 hours, the tree needs to move to another location or have drainage added. Install a PVC stand pipe per tree planting detail as approved by the Landscape Architect if the percolation test fails.

I. Backfill only with 5 parts existing soil or sandy loam and 1 part bed preparation. When the hole is dug in solid rock, topsoil from the same area should not be used. Carefully settle by watering to prevent air pockets. Remove the burlap from the top ½ of the ball, as well as all nylon, plastic string and wire. Container trees will usually be root bound, if so follow standard nursery practice of 'root scoring'.

J. Do not wrap trees.

K. Do not over prune.

L. Mulch the top of the ball. Do not plant grass all the way to the trunk of the tree. Leave the area above the top of the ball and mulch with at least two (2") inches of specified mulch.

M. All plant beds and trees to be mulched with a minimum settled thickness of two (2") inches over the entire bed or pit.

N. Obstruction below ground: In the event that rock, or underground construction work or obstructions are encountered in any plant pit excavation work to be done under this section, alternate locations may be selected by the Owner. Where locations cannot be changed, the obstructions shall be removed to a depth of not less than three (3') feet below grade and no less than six (6") inches below the bottom of ball when plant is properly set at the required grade. The work of this section shall include the removal from the site of such rock or underground obstructions encountered at the cost of the Landscape Contractor.

O. Trees and large shrubs shall be staked as site conditions require. Position stakes to secure trees against seasonal prevailing winds.

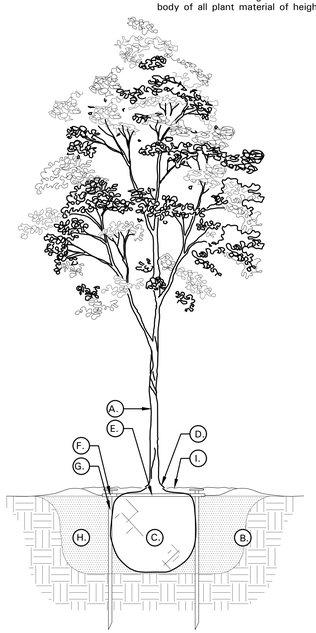
P. Pruning and Mulching: Pruning shall be directed by the Landscape Architect and shall be pruned in accordance with standard horticultural practice following Fine Pruning, Class I pruning standards provided by the National Arborist Association.
1. Dead wood, suckers, broken and badly bruised branches shall be removed. General tipping of the branches is not permitted. Do not cut terminal branches.
2. Pruning shall be done with clean, sharp tools.
3. Immediately after planting operations are completed, all tree pits shall be covered with a layer of organic material two (2") inches in depth. This limit of the organic material for trees shall be the diameter of the plant pit.

Q. Steel Curbing Installation:
1. Curbing shall be aligned as indicated on plans. Stake out limits of steel curbing and obtain Owners approval prior to installation.
2. All steel curbing shall be free of kinks and abrupt bends.
3. Top of curbing shall be ½" maximum height above final finished grade.
4. Stakes are to be installed on the planting bed side of the curbing, as opposed to the grass side.
5. Do not install steel edging along sidewalks or curbs.
6. Cut steel edging at 45 degree angle where edging meets sidewalks or curbs.

3.3 CLEANUP AND ACCEPTANCE

A. Cleanup: During the work, the premises shall be kept neat and orderly at all times. Storage areas for all materials shall be so organized so that they, too, are neat and orderly. All trash and debris shall be removed from the site as work progresses. Keep paved areas clean by sweeping or hosing them at end of each work day.

END OF SECTION



01 TREE PLANTING DETAIL
NOT TO SCALE

TREE PLANTING DETAIL LEGEND AND NOTES

A. TREE: TREES SHALL CONFORM WITH LATEST AMERICAN STANDARD FOR NURSERY STOCK. www.anla.org

B. TREE PIT: WIDTH TO BE AT LEAST TWO (2) TIMES THE DIAMETER OF THE ROOT BALL CENTER TREE IN HOLE & REST ROOT BALL ON UNDISTURBED NATIVE SOIL.

C. ROOT BALL: REMOVE TOP ⅓ BURLAP AND ANY OTHER FOREIGN OBJECT; CONTAINER GROWN STOCK TO BE INSPECTED FOR GIRDLING ROOTS.

D. ROOT FLARE: ENSURE THAT ROOT FLARE IS EXPOSED, FREE FROM MULCH, AND AT LEAST TWO INCHES ABOVE GRADE. TREES SHALL BE REJECTED WHEN GIRDLING ROOTS ARE PRESENT & ROOT FLARE IS NOT APPARENT.

E. ROOTBALL ANCHOR RING: REFER TO MANUFACTURER'S GUIDELINES FOR SIZING. PLACE ROOTBALL ANCHOR RING ON BASE OF ROOTBALL, TRUNK SHOULD BE IN THE CENTER OF THE RING.

F. ROOT ANCHOR BY TREE STAKE SOLUTIONS.

G. NAIL STAKE: REFER TO MANUFACTURER'S GUIDELINES FOR SIZING. INSTALL NAIL STAKES WITH HAMMER OR MALLET FIRMLY INTO UNDISTURBED GROUND. DRIVE NAIL STAKES FLUSH WITH "U" BRACKET ADJACENT TO ROOTBALL (DO NOT DISTURB ROOTBALL).

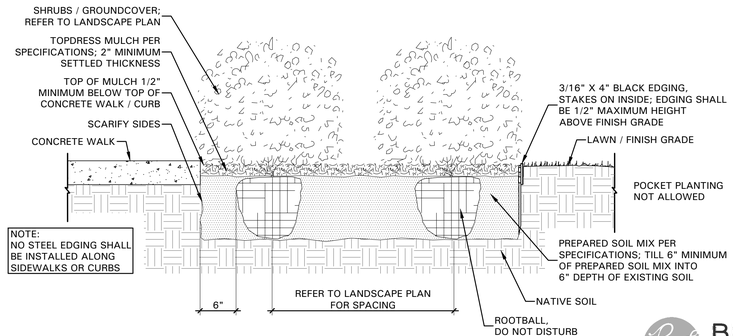
H. BACKFILL: USE EXISTING NATIVE SOIL (no amendments) WATER THOROUGHLY TO ELIMINATE AIR POCKETS.

I. MULCH: DOUBLE SHREDDED HARDWOOD MULCH 2 INCH SETTLED THICKNESS, WITH 2" HT. WATERING RING; ENSURE THAT ROOT FLARE IS EXPOSED. BELOW GROUND STAKE SHOULD NOT BE VISIBLE.

J. TREE STAKES:
TREE STAKE SOLUTIONS 'SAFETY STAKE' BELOW GROUND MODEL AVAILABLE FROM:
Tree Stake Solutions
ATTN: Jeff Tuley
(903) 676-6143
jeff@treestakesolutions.com
www.treestakesolutions.com

OR APPROVED EQUAL. TREES SHALL BE STAKED BELOW GROUND WHERE NECESSARY; ABOVE GROUND STAKING IS EXPRESSLY PROHIBITED.

K. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN A COPY OF THE MANUFACTURER'S SPECIFICATIONS PRIOR TO INSTALLATION OF TREE STAKES. CONTRACTOR SHALL ADHERE TO MANUFACTURER'S INSTALLATION GUIDELINES, SPECIFICATIONS, AND OTHER REQUIREMENTS FOR TREE STAKE INSTALLATION.



02 SHRUB / GROUNDCOVER DETAIL
NOT TO SCALE

BELLE FIRMA

4245 North Central Expy
Suite 501
Dallas, Texas 75205
214.865.7192 office

TIG

BUILD TO SUIT For
NIAGARA CONSERVATION ON OLD GERAULT
FLOWER MOUND, TEXAS

MEINHARDT & ASSOCIATES ARCHITECTS, P.L.L.C
14901 DALLAS PARKWAY
SUITE 636
DALLAS TEXAS 75254
972 980-8980

REGISTERED LANDSCAPE ARCHITECT
MARY ANN HAMM
2246
STATE OF TEXAS
09.30.20

DATE: 08.03.2020
JOB # 20-204
LANDSCAPE SPECIFICATIONS AND DETAILS
SHEET:
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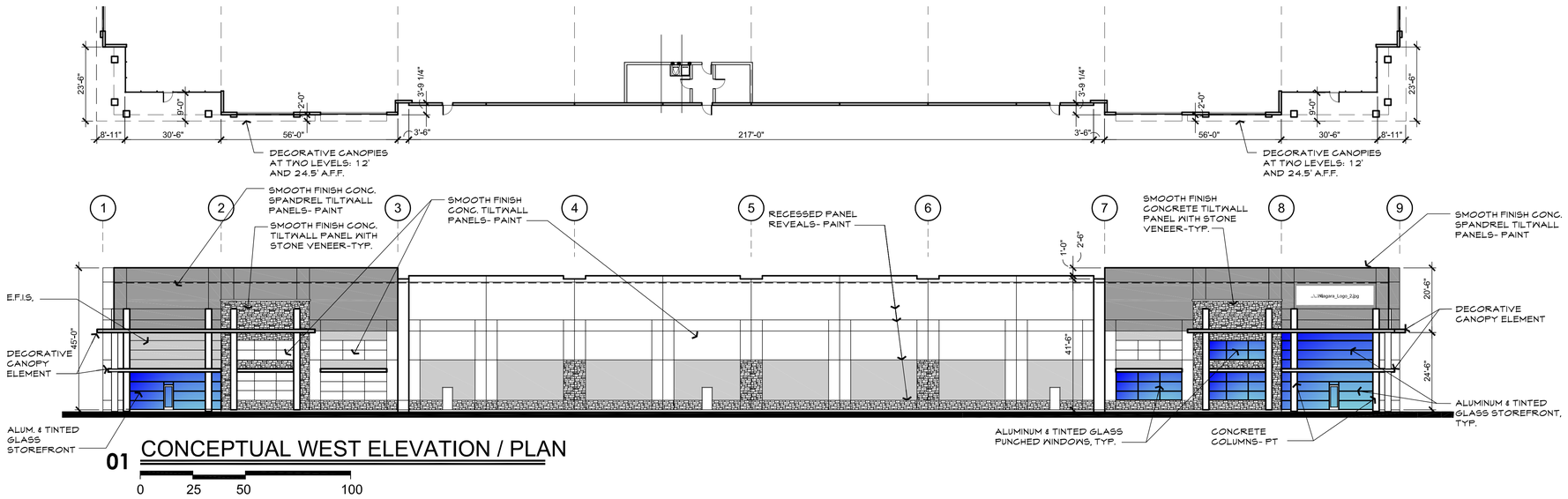

01 CONCEPTUAL WEST ELEVATION / PLAN

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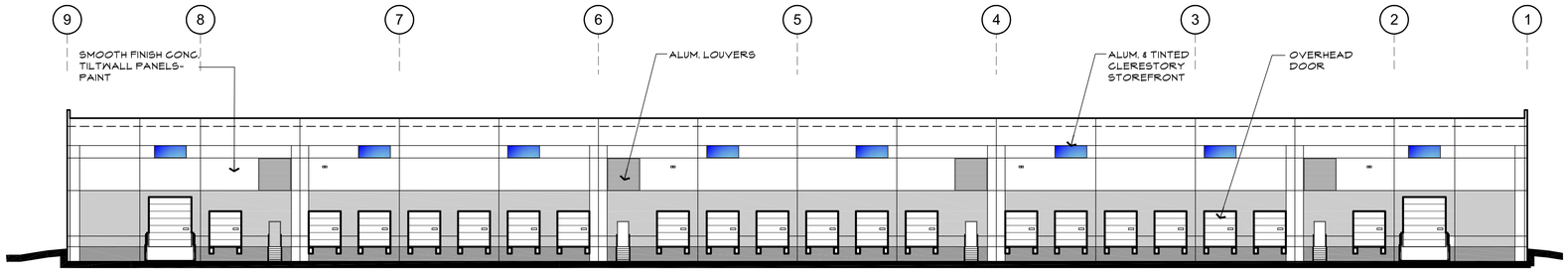

02 CONCEPTUAL EAST ELEVATION / PLAN

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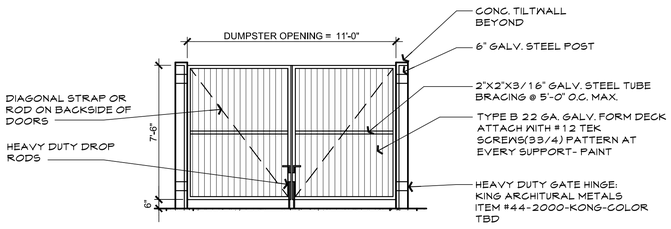

03 DUMPSTER ELEVATION

0 5 10 20

COLOR SELECTION KEY

- STONE
- FIELD COLOR
- MEDIUM ACCENT COLOR
- DARK ACCENT COLOR
- STEEL METAL COLOR

MATERIAL USE TABLE

	MATERIAL	NORTH ELEV.	SOUTH ELEV.	EAST ELEV.	WEST ELEV.
1.	TOTAL FACADE S.F.	12,957 S.F.	12,957 S.F.	15,085 S.F.	18,112 S.F.
2.	FACADE (EXCLUSIVE OF DOOR AND WINDOWS)	12,623 S.F.	12,205 S.F.	12,699 S.F.	16,517 S.F.
3.	DOORS AND WINDOWS S.F.	334 S.F.	752 S.F.	2,386 S.F.	1,595 S.F.
4.	PRIMARY MASONRY TOTALS- (MIN. 80%)	12,362 S.F. and 98%	12,127 S.F. and 99.5%	12,699 S.F. and 100%	15,922 S.F. and 96%
	*TILT WALL S.F.	11,842S.F. and 94%	10,576 S.F. and 87%	12,699 S.F. and 100%	14,043 S.F. and 85%
	*TEXTURED STONE S.F.	520 S.F. and 4%	1,551 S.F. and 12.5%		1,879 S.F. and 11%
5.	SECONDARY TOTALS - (MAX. 20%)	261 S.F. and 2%	78 S.F. AND .5%		595 S.F. and 4%
	*METAL ACCENT S.F.	94 S.F. and 1%	78 S.F. and .5%		250 S.F. and 2%
	*EIFS (STUCCO)	167 S.F. and 1%			345 S.F. and 2%

NOTE:
ANY EXTERNAL ELECTRICAL PANELS WILL BE PAINTED/TEXTURED TO MATCH THE MATERIAL AND COLOR OF THE BUILDING.

..\..\TIG_logo3.png

NIAGARA CONSERVATION ON OLD GERAULT

FLOWER MOUND, TEXAS

BUILD TO SUIT For

MEINHARDT & ASSOCIATES ARCHITECTS, P.L.L.C
14643 DALLAS PARKWAY
SUITE 636
DALLAS TEXAS 75254
972 9904980

NOT FOR REGULATORY APPROVAL, PERMITTING, OR CONSTRUCTION

DATE: 11.03.2020

JOB # 20-204

EXTERIOR ELEVATIONS

SHEET:

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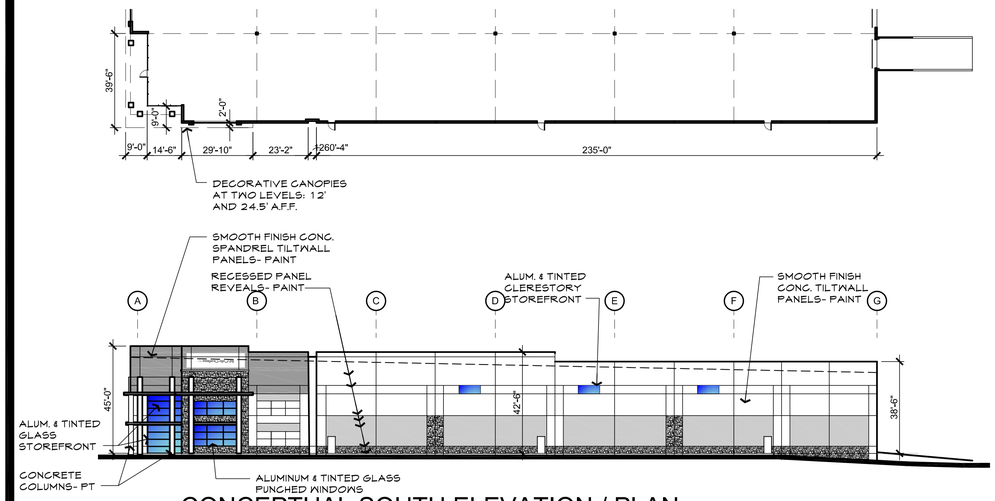

01 CONCEPTUAL SOUTH ELEVATION / PLAN

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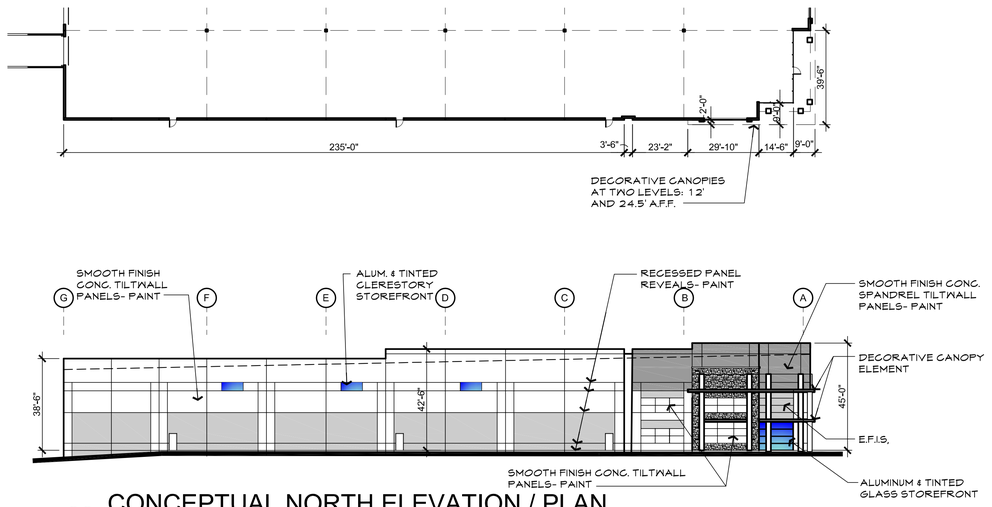

03 CONCEPTUAL NORTH ELEVATION / PLAN

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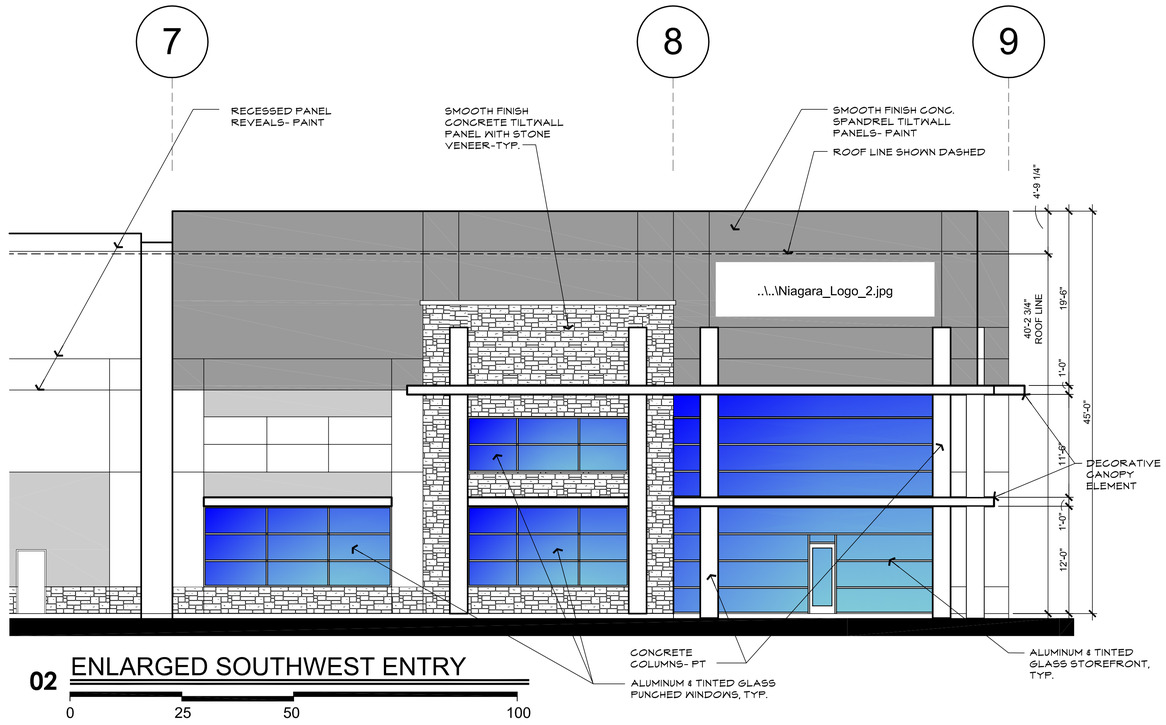

02 ENLARGED SOUTHWEST ENTRY

0 25 50 100

COLOR SELECTION KEY

- STONE
- FIELD COLOR
- MEDIUM ACCENT COLOR
- DARK ACCENT COLOR
- STEEL METAL COLOR

MATERIAL USE TABLE

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NOTE:
ANY EXTERNAL ELECTRICAL PANELS WILL BE PAINTED/TEXTURED TO MATCH THE MATERIAL AND COLOR OF THE BUILDING.

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BUILD TO SUIT For

NIAGARA CONSERVATION ON OLD GERAULT

FLOWER MOUND, TEXAS

MEINHARDT & ASSOCIATES ARCHITECTS, P.L.L.C
14643 DALLAS PARKWAY
SUITE 636
DALLAS TEXAS 75254
972 960-6860

NOT FOR REGULATORY APPROVAL, PERMITTING, OR CONSTRUCTION

DATE: 11.03.2020

JOB # 20-204

EXTERIOR ELEVATIONS

SHEET:

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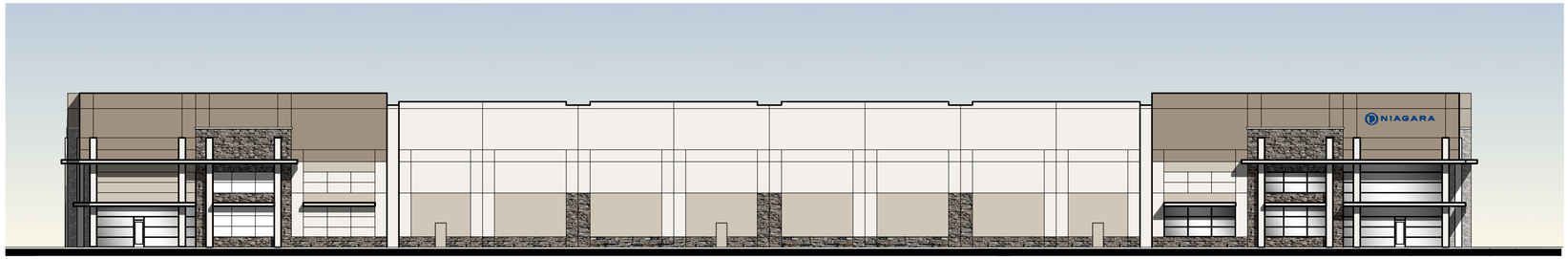
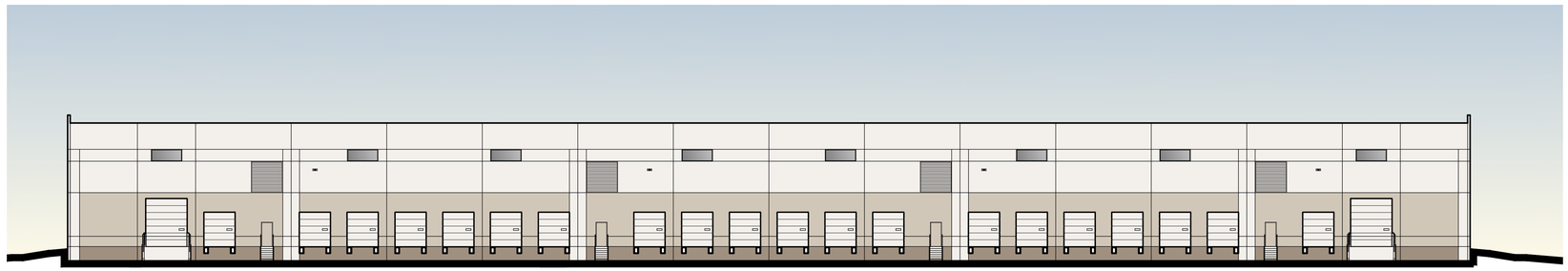


01 WEST ELEVATION



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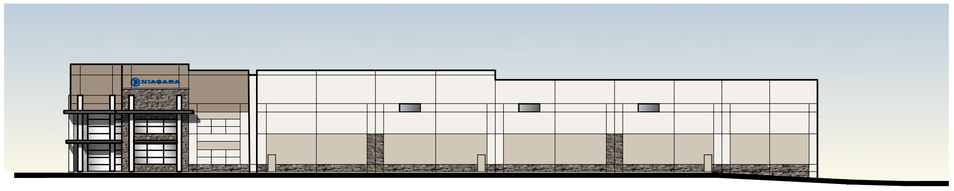
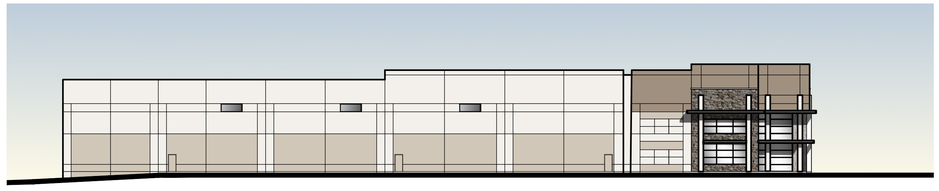


03 SOUTH ELEVATION



04 NORTH ELEVATION

05 ENLARGED SOUTHWEST ENTRY

COLOR SELECTION KEY

CORONADO STONE
ARTISAN LEDGE - FALMOUTH

SHERWIN WILLIAMS
7036 ACCESSIBLE BEIGE
FIELD COLOR

SHERWIN WILLIAMS
7037 BALANCED BEIGE

SHERWIN WILLIAMS
9174 MOTH WING

TIG

NIAGARA CONSERVATION ON OLD GERAULT

BUILD TO SUIT For

FLOWER MOUND, TEXAS

MEINHARDT & ASSOCIATES
ARCHITECTS, P.L.L.C
14643 DALLAS PARKWAY
SUITE 636
DALLAS TEXAS 75254
972 960-8565

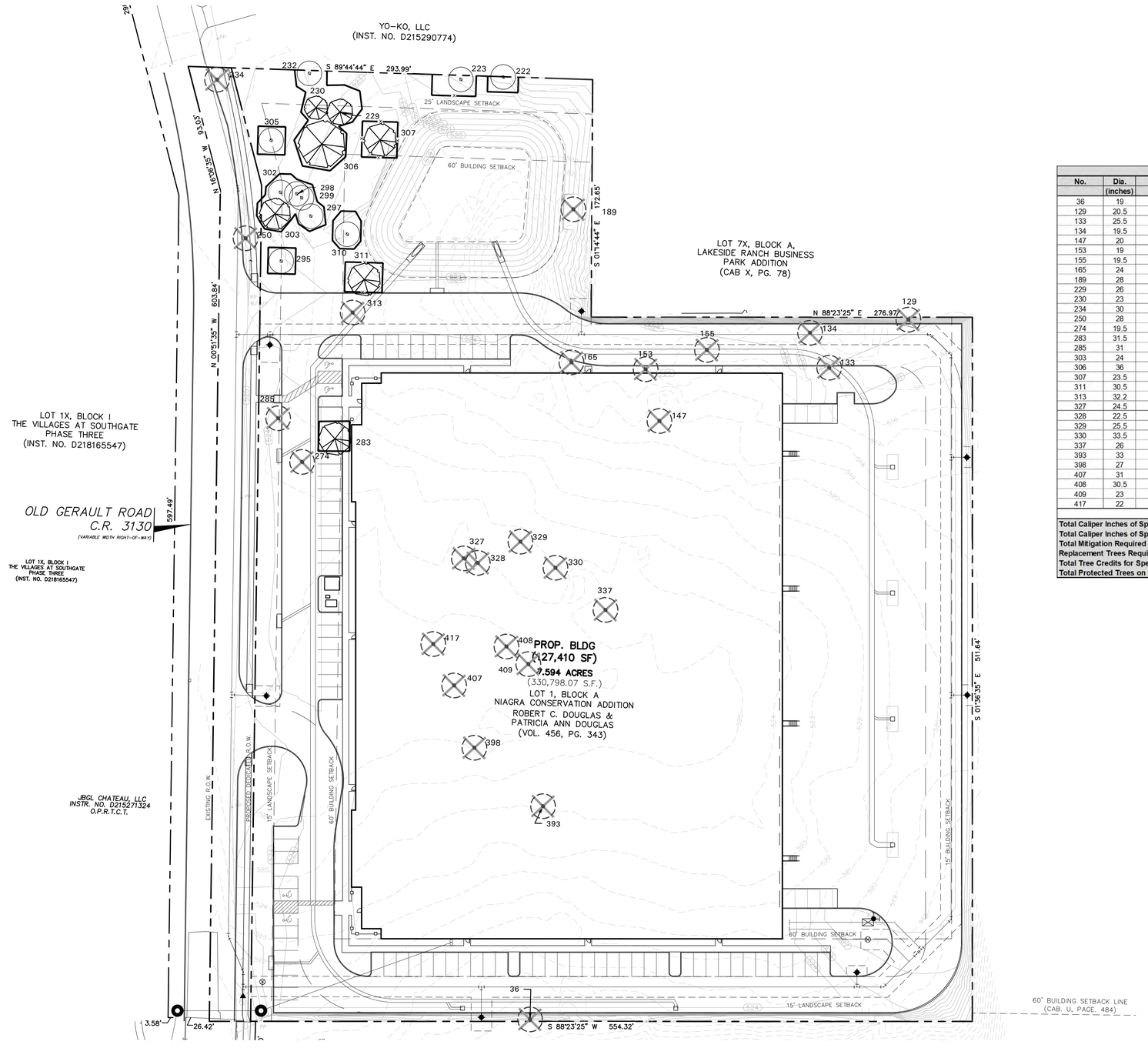
DATE: 09.04.2020

JOB # 20-204

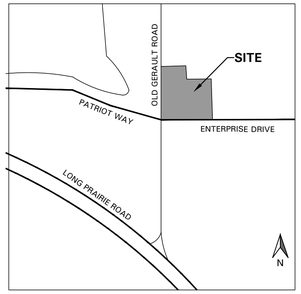
P.O.D. ELEVATIONS

SHEET:

G:\MISC\20204-TIG Niagara\CD\ Shell\CDs\204-A6.00Series_Color.dwg, 9/4/2020 12:15:16 PM, 1:1



VICINITY MAP
NOT TO SCALE



TREE SURVEY FIELD DATA

No.	Dia. (inches)	Species (common name)	Species (botanical name)	Status	Protected	Health	Tree Credits	Remarks
36	19	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED-SPECIMEN	GOOD		
129	20.5	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED-SPECIMEN	GOOD		
133	25.5	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED-SPECIMEN	GOOD		
134	19.5	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED-SPECIMEN	GOOD		
147	20	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED-SPECIMEN	GOOD		
153	19	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED-SPECIMEN	GOOD		
155	19.5	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED-SPECIMEN	GOOD		
165	24	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED-SPECIMEN	GOOD		
189	28	POST OAK	QUERCUS STELLATA	TO BE REMOVED	PROTECTED-SPECIMEN	GOOD		
229	26	CEDAR ELM	ULMUS CRASSIFOLIA	TO REMAIN	PROTECTED-SPECIMEN	GOOD	5	BUILDABLE AREA
230	23	CEDAR ELM	ULMUS CRASSIFOLIA	TO REMAIN	PROTECTED-SPECIMEN	GOOD	4	BUILDABLE AREA
234	30	POST OAK	QUERCUS STELLATA	TO BE REMOVED	PROTECTED-SPECIMEN	GOOD		
250	28	POST OAK	QUERCUS STELLATA	TO BE REMOVED	PROTECTED-SPECIMEN	POOR		
274	19.5	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED-SPECIMEN	FAIR		
283	31.5	POST OAK	QUERCUS STELLATA	TO REMAIN	PROTECTED-SPECIMEN	GOOD	6	BUILDABLE AREA
285	31	POST OAK	QUERCUS STELLATA	TO BE REMOVED	PROTECTED-SPECIMEN	GOOD		
303	24	POST OAK	QUERCUS STELLATA	TO REMAIN	PROTECTED-SPECIMEN	FAIR	1	
306	36	CEDAR ELM	ULMUS CRASSIFOLIA	TO REMAIN	PROTECTED-SPECIMEN	GOOD	6	BUILDABLE AREA
307	23.5	CEDAR ELM	ULMUS CRASSIFOLIA	TO REMAIN	PROTECTED-SPECIMEN	GOOD	4	BUILDABLE AREA
311	30.5	POST OAK	QUERCUS STELLATA	TO REMAIN	PROTECTED-SPECIMEN	GOOD	6	BUILDABLE AREA
313	32.2	POST OAK	QUERCUS STELLATA	TO BE REMOVED	PROTECTED-SPECIMEN	GOOD		
327	24.5	POST OAK	QUERCUS STELLATA	TO BE REMOVED	PROTECTED-SPECIMEN	GOOD		
328	22.5	POST OAK	QUERCUS STELLATA	TO BE REMOVED	PROTECTED-SPECIMEN	GOOD		
329	25.5	POST OAK	QUERCUS STELLATA	TO BE REMOVED	PROTECTED-SPECIMEN	GOOD		
330	33.5	POST OAK	QUERCUS STELLATA	TO BE REMOVED	PROTECTED-SPECIMEN	GOOD		
337	26	POST OAK	QUERCUS STELLATA	TO BE REMOVED	PROTECTED-SPECIMEN	GOOD		
393	33	POST OAK	QUERCUS STELLATA	TO BE REMOVED	PROTECTED-SPECIMEN	FAIR		
398	27	POST OAK	QUERCUS STELLATA	TO BE REMOVED	PROTECTED-SPECIMEN	GOOD		
407	31	POST OAK	QUERCUS STELLATA	TO BE REMOVED	PROTECTED-SPECIMEN	GOOD		
408	30.5	POST OAK	QUERCUS STELLATA	TO BE REMOVED	PROTECTED-SPECIMEN	GOOD		
409	23	POST OAK	QUERCUS STELLATA	TO BE REMOVED	PROTECTED-SPECIMEN	GOOD		
417	22	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED-SPECIMEN	POOR		Measurement taken at 1' ht.

Total Caliper Inches of Specimen Trees on Site to be Removed (Total: 33 Specimen Trees)	**828.7**
Total Caliper Inches of Specimen Trees to be Removed	**634.2**
Total Mitigation Required for Specimen Trees Removed	**1,268.4**
Replacement Trees Required for Specimen Trees to be Removed	**422.8**
Total Tree Credits for Specimen Trees to Remain	**32.0**
Total Protected Trees on Site	**164.0**

EXISTING TREE LEGEND

- SPECIMEN TREE TO REMAIN
- SPECIMEN TREE TO BE REMOVED
- TREE PROTECTION FENCING TO REMAIN

N

SCALE: 1" = 40'-0"
0 20 40 80

BELLE FIRMA

4245 North Central Expy
Suite 501
Dallas, Texas 75205
214.865.7192 office

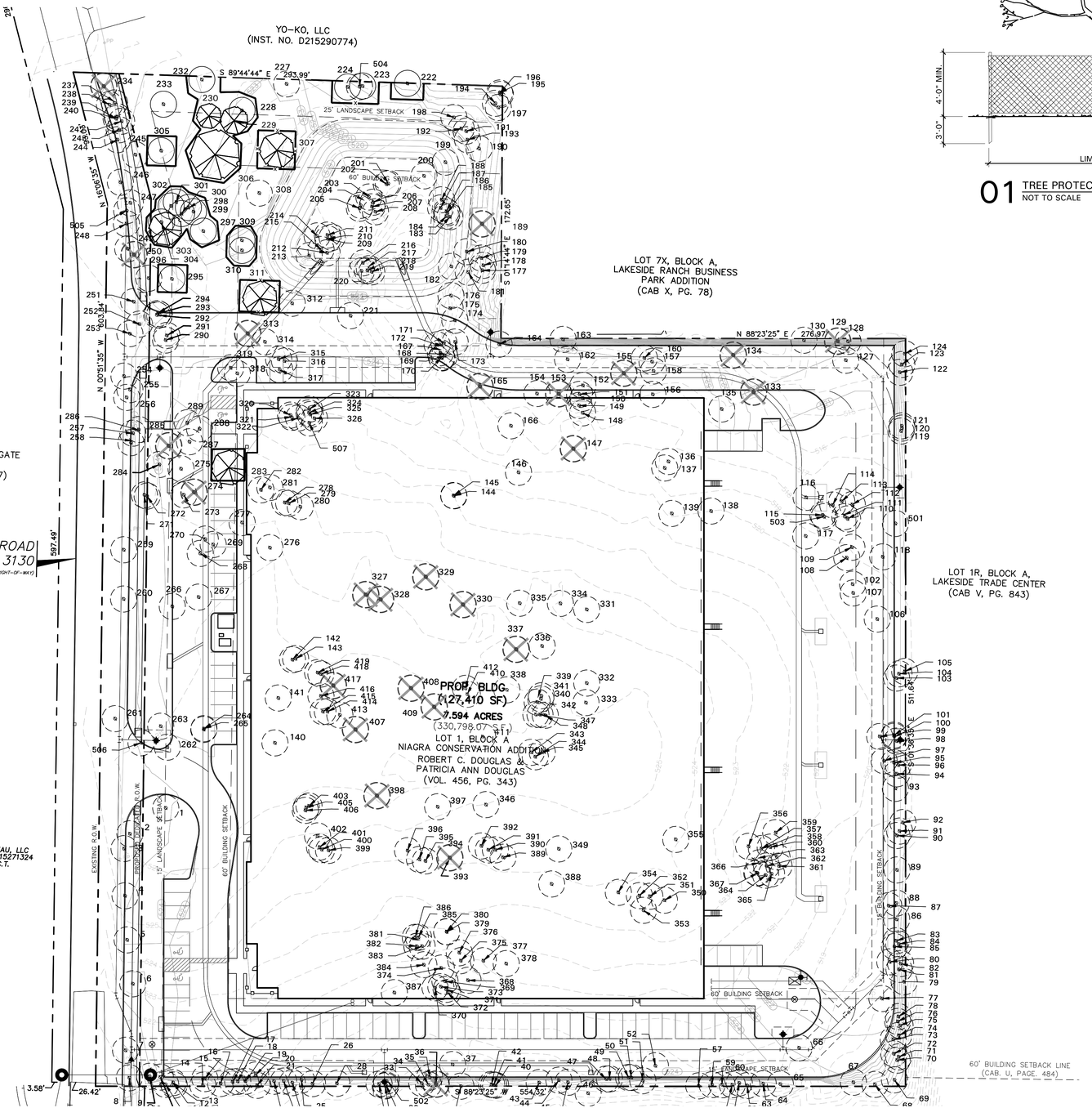
TIG

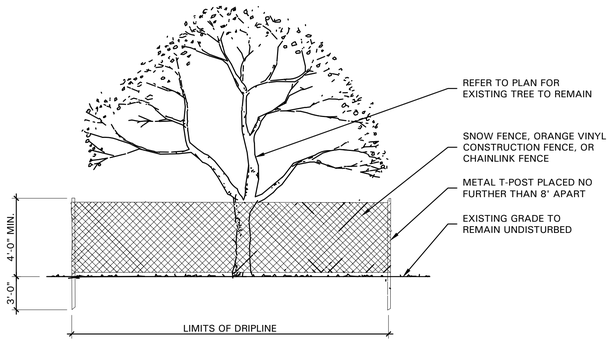
BUILD TO SUIT For
NIAGARA CONSERVATION ON OLD GERAULT
FLOWER MOUND, TEXAS

MEINHARDT & ASSOCIATES
ARCHITECTS, P.L.L.C
14901 DALLAS PARKWAY
SUITE 636
DALLAS TEXAS 75254
972 980-8880

REGISTERED LANDSCAPE ARCHITECT
PATRICIA ANN FRANCIS
2245
STATE OF TEXAS
09.30.20

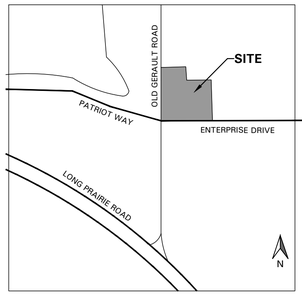
DATE: 08.03.2020
JOB # 20-204
SPECIMEN TREE PLAN
SHEET:
L1.00





01 TREE PROTECTIVE FENCING
NOT TO SCALE

VICINITY MAP
NOT TO SCALE



TREE PRESERVATION NOTES

1. EXISTING TREES TO REMAIN SHALL BE PROTECTED DURING CONSTRUCTION FROM TREE STRUCTURE DAMAGE AND COMPACTION OF SOIL UNDER AND AROUND DRIP LINE (CANOPY) OF TREE.
2. IF ANY ROOT STRUCTURE IS DAMAGED DURING ADJACENT EXCAVATION / CONSTRUCTION, NOTIFY OWNER'S AUTHORIZED REPRESENTATIVE IMMEDIATELY. IT IS RECOMMENDED THAT A LICENSED ARBORIST BE SECURED FOR THE TREATMENT OF ANY POSSIBLE TREE WOUNDS.
3. NO DISTURBANCE OF THE SOIL GREATER THAN 4" SHALL BE LOCATED CLOSER TO THE TREE TRUNK THAN 1/2 THE DISTANCE OF THE DRIP LINE TO THE TREE TRUNK. A MINIMUM OF 75% OF THE DRIP LINE AND ROOT ZONE SHALL BE PRESERVED AT NATURAL GRADE.
4. ANY FINE GRADING DONE WITHIN THE CRITICAL ROOT ZONES OF THE PROTECTED TREES MUST BE DONE WITH LIGHT MACHINERY SUCH AS A BOBCAT OR LIGHT TRACTOR. NO EARTH MOVING EQUIPMENT WITH TRACKS IS ALLOWED WITHIN THE CRITICAL ROOT ZONE OF THE TREES.
5. NO MATERIALS INTENDED FOR USE IN CONSTRUCTION OR WASTE MATERIALS ACCUMULATED DUE TO EXCAVATION OR DEMOLITION SHALL BE PLACED WITHIN THE LIMITS OF THE DRIP LINE OF ANY TREE.
6. NO EQUIPMENT MAY BE CLEANED OR TOXIC SOLUTIONS, OR OTHER LIQUID CHEMICALS, SHALL BE DEPOSITED WITHIN THE LIMITS OF THE DRIP LINE OF A TREE, INCLUDING BUT NOT LIMITED TO: PAINT, OIL, SOLVENTS, ASPHALT, CONCRETE, MORTAR, PRIMERS, ETC.
7. NO SIGNS, WIRES OR OTHER ATTACHMENTS, OTHER THAN THOSE OF A PROTECTIVE NATURE, SHALL BE ATTACHED TO ANY TREE.
8. NO VEHICULAR / CONSTRUCTION EQUIPMENT TRAFFIC OR PARKING IS ALLOWED WITHIN THE LIMITS OF THE DRIP LINE OF TREES.
9. BORING OF UTILITIES MAY BE PERMITTED UNDER PROTECTED TREES IN CERTAIN CIRCUMSTANCES. THE MINIMUM LENGTH OF THE BORE SHALL BE THE WIDTH OF THE TREE'S CANOPY AND SHALL BE A MINIMUM DEPTH OF FORTY-EIGHT (48") INCHES.
10. IRRIGATION TRENCHING WHICH MUST BE DONE WITHIN THE CRITICAL ROOT ZONE OF A TREE SHALL BE DUG BY HAND AND ENTER THE AREA IN A RADIAL MANNER.
11. ALL TREES TO BE REMOVED FROM THE SITE SHALL BE FLAGGED BY THE CONTRACTOR WITH BRIGHT RED VINYL TAPE (3" WIDTH) WRAPPED AROUND THE MAIN TRUNK AT A HEIGHT OF FOUR (4') FEET ABOVE GRADE. FLAGGING SHALL BE APPROVED BY OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO ANY TREE REMOVAL. CONTRACTOR SHALL CONTACT OWNER'S AUTHORIZED REPRESENTATIVE WITH 72 HOURS NOTICE TO SCHEDULE ON-SITE MEETING.
12. ALL TREES TO REMAIN, AS NOTED ON DRAWINGS, SHALL HAVE PROTECTIVE FENCING LOCATED AT THE TREE'S DRIP LINE. THE PROTECTIVE FENCING MAY BE COMPRISED OF SNOW FENCING, ORANGE VINYL CONSTRUCTION FENCING, CHAIN LINK FENCE OR OTHER SIMILAR FENCING WITH A FOUR (4') FOOT APPROXIMATE HEIGHT. THE PROTECTIVE FENCING SHALL BE LOCATED AS INDICATED ON THE TREE PROTECTION DETAIL.
13. WHEN A LOW HANGING LIMB IS BROKEN DURING THE COURSE OF CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE OWNER'S AUTHORIZED REPRESENTATIVE IMMEDIATELY. UNDER NO CIRCUMSTANCE SHALL THE CONTRACTOR PRUNE ANY PORTION OF THE DAMAGED TREE WITHOUT THE PRIOR APPROVAL BY THE OWNER'S AUTHORIZED REPRESENTATIVE.

EXISTING TREE LEGEND

- SPECIMEN TREE TO REMAIN
- SPECIMEN TREE TO BE REMOVED
- EXISTING TREE TO REMAIN
- EXISTING TREE TO TO BE REMOVED
- TREE PROTECTION FENCING TO REMAIN DURING CONSTRUCTION, REFER TO L1.01

N

SCALE: 1" = 40'-0"
0 20 40 80

BELLE FIRMA

4245 North Central Expy
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Dallas, Texas 75205
214.865.7192 office

TIG

BUILD TO SUIT For

NIAGARA CONSERVATION ON OLD GERAULT

FLOWER MOUND, TEXAS

MEINHARDT & ASSOCIATES ARCHITECTS, P.L.L.C
14643 DALLAS PARKWAY
SUITE 630
DALLAS TEXAS 75254
972 980-8880

REGISTERED LANDSCAPE ARCHITECT
CHERI ANN HALL
2246
STATE OF TEXAS

09.30.20

DATE: 08.03.2020

JOB # 20-204

TREE PRESERVATION PLAN

SHEET:

L1.01

TREE SURVEY FIELD DATA

No.	Dia. (inches)	Species (common name)	Species (botanical name)	Status	Protected	Health	Tree Credits	Remarks
1	19.5	GUM BUMELIA	SIDEROXYLON LANUGINOSUM	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
2	13.5	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		DEDICATED R.O.W. BUILDABLE AREA
3	16	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		DEDICATED R.O.W. BUILDABLE AREA
4	6	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		DEDICATED R.O.W. BUILDABLE AREA
5	9	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		POOR		
6	13	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
7	11	GREEN ASH	FRAXINUS PENNSYLVANICA	TO BE REMOVED	PROTECTED	GOOD		DEDICATED R.O.W. BUILDABLE AREA
8	21.5	EASTERN RED CEDAR	JUNIPERUS VIRGINIANA	TO BE REMOVED		GOOD		
9	11	GREEN ASH	FRAXINUS PENNSYLVANICA	TO BE REMOVED	PROTECTED	GOOD		OUTSIDE BUILABLE AREA
10	11	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
11	6.5	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
12	14.5	GREEN ASH	FRAXINUS PENNSYLVANICA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
13	11.5	GREEN ASH	FRAXINUS PENNSYLVANICA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
14	17	GREEN ASH	FRAXINUS PENNSYLVANICA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
15	6	GREEN ASH	FRAXINUS PENNSYLVANICA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
16	6.5	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
17	6	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
18	13.5	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
19	8.5	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
20	10	GREEN ASH	FRAXINUS PENNSYLVANICA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
21	9.5	EVE'S NECKLACE	SOPHORA AFFINIS	TO BE REMOVED		GOOD		
22	36.5	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
23	6	EVE'S NECKLACE	SOPHORA AFFINIS	TO BE REMOVED		GOOD		
24	10	GREEN ASH	FRAXINUS PENNSYLVANICA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
25	9.5	GREEN ASH	FRAXINUS PENNSYLVANICA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
26	7	EVE'S NECKLACE	SOPHORA AFFINIS	TO BE REMOVED		GOOD		
28	13	GREEN ASH	FRAXINUS PENNSYLVANICA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
30	12.5	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
31	7.5	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
32	6	GUM BUMELIA	SIDEROXYLON LANUGINOSUM	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
33	8.5	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
34	10.5	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
35	17	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
36	19	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED-SPECIMEN	GOOD		
37	6.5	CHINESE ELM	ULMUS PARVIFOLIA	TO BE REMOVED		GOOD		
38	11.5	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
40	15.5	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
41	14	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
42	12.5	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
43	9	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
44	8	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
45	13.5	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
46	13	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
47	15	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		POOR		
48	19	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
49	7	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
50	12	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
51	6.5	EASTERN RED CEDAR	JUNIPERUS VIRGINIANA	TO BE REMOVED		GOOD		
52	6.5	HERCULES' CLUB	ZANTHOXYLUM CLAVA-HERCULIS	TO BE REMOVED		GOOD		
57	9	BOXELDER	ACER NEGUNDO	TO BE REMOVED		POOR		
59	10	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
60	6.5	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
61	8	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
62	13	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
63	15	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
64	12	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
65	7	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
66	7	HERCULES' CLUB	ZANTHOXYLUM CLAVA-HERCULIS	TO BE REMOVED		GOOD		
67	18	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
68	17	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
69	7	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
70	11	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
71	10	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		POOR		
72	25.5	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
73	8	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
74	6.5	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
75	6	GUM BUMELIA	SIDEROXYLON LANUGINOSUM	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
76	7	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
77	7	EASTERN RED CEDAR	JUNIPERUS VIRGINIANA	TO BE REMOVED		GOOD		
78	10	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		POOR		
79	8.5	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
80	11	EASTERN RED CEDAR	JUNIPERUS VIRGINIANA	TO BE REMOVED		GOOD		
81	6	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
82	10	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
83	7	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
84	7	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
85	8.5	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
86	8	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
87	10	EASTERN RED CEDAR	JUNIPERUS VIRGINIANA	TO BE REMOVED		GOOD		
88	10	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
89	6	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
90	9.5	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
91	16.5	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		POOR		
92	8	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
93	11	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
94	23	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		POOR		
95	18	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
96	9.5	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
97	7	EASTERN RED CEDAR	JUNIPERUS VIRGINIANA	TO BE REMOVED		GOOD		
98	13.5	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		POOR		
99	8.5	EASTERN RED CEDAR	JUNIPERUS VIRGINIANA	TO BE REMOVED		GOOD		
100	8	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
101	10	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
102	10	EASTERN RED CEDAR	JUNIPERUS VIRGINIANA	TO BE REMOVED		GOOD		
103	10	EASTERN RED CEDAR	JUNIPERUS VIRGINIANA	TO BE REMOVED		GOOD		
104	17	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		POOR		
105	14	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
106	7	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
107	8	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
108	15.5	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
109	7.5	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
110	7	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
111	15	OSAGE ORANGE	MACLURA POMIFERA	TO BE REMOVED		GOOD		
112	9.5	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
113	7	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
114	7.5	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
115	22.5	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		

TREE SURVEY FIELD DATA

No.	Dia. (inches)	Species (common name)	Species (botanical name)	Status	Protected	Health	Tree Credits	Remarks
116	14.5	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
117	11.5	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
118	6.5	GREEN ASH	FRAXINUS PENNSYLVANICA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
119	12	GREEN ASH	FRAXINUS PENNSYLVANICA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
120	6	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
121	9	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
122	11.5	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
123	15.5	GREEN ASH	FRAXINUS PENNSYLVANICA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
124	15.5	GREEN ASH	FRAXINUS PENNSYLVANICA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
127	7	GREEN ASH	FRAXINUS PENNSYLVANICA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
128	11	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
129	20.5	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED-SPECIMEN	GOOD		
130	9.5	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
133	25.5	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED-SPECIMEN	GOOD		
134	19.5	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED-SPECIMEN	GOOD		
135	7	HERCULES' CLUB	ZANTHOXYLUM CLAVA-HERCULIS	TO BE REMOVED		GOOD		
136	9.5	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
137	7	CHINESE PISTACHE	PISTACIA CHINENSIS	TO BE REMOVED		GOOD		
138	8.5	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
139	16.5	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		POOR		
140	20.5	POST OAK	QUERCUS STELLATA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
141	22.5	OSAGE ORANGE	MACLURA POMIFERA	TO BE REMOVED		GOOD		
142	13	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
143A	14	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
143B	13	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
146A	18	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
146B	13	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
144	9.5	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
145	10.5	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
147	20	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED-SPECIMEN	GOOD		
148	10	GUM BUMELIA	SIDEROXYLON LANUGINOSUM	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
149	6	GUM BUMELIA	SIDEROXYLON LANUGINOSUM	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
150	8.5	GUM BUMELIA	SIDEROXYLON LANUGINOSUM	TO BE REMOVED	PROTECTED	POOR		BUILDABLE AREA
151	6.6	GUM BUMELIA	SIDEROXYLON LANUGINOSUM	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
152	16.5	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
153	19	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED-SPECIMEN	GOOD		
154	24.5	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED		HAZARD		
155	19.5	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED-SPECIMEN	GOOD		
156	6.5	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
157	18	GUM BUMELIA	SIDEROXYLON LANUGINOSUM	TO BE REMOVED	PROTECTED	POOR		BUILDABLE AREA
158	11.5	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
160	15.5	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
162	15	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
163	14	POST OAK	QUERCUS STELLATA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
164	16	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
165	24	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED-SPECIMEN	GOOD		
166	26	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		POOR		
167	10	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
168	10	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
169	11	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
170	6.5	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
171	15	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
172	8	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
173	8	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
174	10	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
175	12	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
176	7.5	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
177	9.5	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
178	6	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
179	5.5	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
180	12.5	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
181	11.5	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
182	12	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
183	9	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
184	6	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
185	6	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
186	7	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
187	11	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
188	8	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
189	28	POST OAK	QUERCUS STELLATA	TO BE REMOVED	PROTECTED-SPECIMEN	GOOD		
190	6	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
191	6	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
192	7	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
193	11.5	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
194	7	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
195	6	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
196	7	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
197	7	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
198	16.5	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
199	9	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
200	6	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
201	11	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
202	10	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
203	9	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
204	13	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
205	7	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
206	7	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
207	10	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
208	6	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
209	13	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
210	8	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
211	7	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
212	11	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
213	11.5	POST OAK	QUERCUS STELLATA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
214	9	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
215	6	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
216	9	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
217	8	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
218	7.5	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
219	8	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
220	7	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
221	8	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
222	11.5	CEDAR ELM	ULMUS CRASSIFOLIA	TO REMAIN	PROTECTED	GOOD	1	BUILDABLE AREA
223	9	CEDAR ELM	ULMUS CRASSIFOLIA	TO REMAIN	PROTECTED	GOOD	1	BUILDABLE AREA
224	10	HACKBERRY	CELTIS LAEVIGATA	TO REMAIN		GOOD		
227	8.5	HERCULES' CLUB	ZANTHOXYLUM CLAVA-HERCULIS	TO BE REMOVED		GOOD		
228	7	HACKBERRY	CELTIS LAEVIGATA	TO REMAIN		GOOD		

TIG

BUILD TO SUIT For

NIAGARA CONSERVATION ON OLD GERAULT

FLOWER MOUND, TEXAS

MEINHARDT & ASSOCIATES ARCHITECTS, P.L.L.C
14900 DALLAS PARKWAY
SUITE 530
DALLAS TEXAS 75254
972 960-9900

REGISTERED LANDSCAPE ARCHITECT
TERRI ANN HALL
2246
STATE OF TEXAS
09.30.20

DATE: 08.03.2020

JOB # 20-204

TREE SURVEY DATA

SHEET:

L1.02

BELLE FIRMA
4245 North Central Expy
Suite 501
Dallas, Texas 75205
214.865.7192 office

TREE SURVEY FIELD DATA								
No.	Dia. (inches)	Species (common name)	Species (botanical name)	Status	Protected	Health	Tree Credits	Remarks
229	26	CEDAR ELM	ULMUS CRASSIFOLIA	TO REMAIN	PROTECTED-SPECIMEN	GOOD	5	BUILDABLE AREA
230	23	CEDAR ELM	ULMUS CRASSIFOLIA	TO REMAIN	PROTECTED-SPECIMEN	GOOD	4	BUILDABLE AREA
232	10	CEDAR ELM	ULMUS CRASSIFOLIA	TO REMAIN	PROTECTED	GOOD	1	BUILDABLE AREA
233	10	HACKBERRY	CELTIS LAEVIGATA	TO REMAIN		GOOD		
234	30	POST OAK	QUERCUS STELLATA	TO BE REMOVED	PROTECTED-SPECIMEN	GOOD		
237	12	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		DEDICATED R.O.W. BUILDABLE AREA
238	8	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		DEDICATED R.O.W. BUILDABLE AREA
239	8.5	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		DEDICATED R.O.W. BUILDABLE AREA
240	6.5	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		DEDICATED R.O.W. BUILDABLE AREA
242	8	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		DEDICATED R.O.W. BUILDABLE AREA
243	8	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		DEDICATED R.O.W. BUILDABLE AREA
244	12	BLACKJACK OAK	QUERCUS MARILANDICA	TO BE REMOVED	PROTECTED	GOOD		DEDICATED R.O.W. BUILDABLE AREA
245	17	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		DEDICATED R.O.W. BUILDABLE AREA
246	10	POST OAK	QUERCUS STELLATA	TO BE REMOVED	PROTECTED	GOOD		DEDICATED R.O.W. BUILDABLE AREA
247	7	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
248	9.5	POST OAK	QUERCUS STELLATA	TO BE REMOVED	PROTECTED	GOOD		DEDICATED R.O.W. BUILDABLE AREA
249	6	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		POOR		
250	28	POST OAK	QUERCUS STELLATA	TO BE REMOVED	PROTECTED-SPECIMEN	POOR		
251	17.5	POST OAK	QUERCUS STELLATA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
252	6	GREEN ASH	FRAXINUS PENNSYLVANICA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
253	6.5	POST OAK	QUERCUS STELLATA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
254	13.5	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
255	6.5	BLACKJACK OAK	QUERCUS MARILANDICA	TO BE REMOVED	PROTECTED	GOOD		DEDICATED R.O.W. BUILDABLE AREA
256	13	POST OAK	QUERCUS STELLATA	TO BE REMOVED	PROTECTED	GOOD		DEDICATED R.O.W. BUILDABLE AREA
257	9	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		DEDICATED R.O.W. BUILDABLE AREA
258	6	OSAGE ORANGE	MACLURA POMIFERA	TO BE REMOVED		POOR		
259	7.5	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		DEDICATED R.O.W. BUILDABLE AREA
260	7	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		DEDICATED R.O.W. BUILDABLE AREA
261	8	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		DEDICATED R.O.W. BUILDABLE AREA
262	7	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
263	6	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		OUTSIDE BUILDABLE AREA
264	9.5	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
265	11	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
266	8.5	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
267	10.5	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
268	7.5	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
269	14	CHINABERRY	MELIA AZEDARACH	TO BE REMOVED		GOOD		
270	7.5	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
271	8.5	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		DEDICATED R.O.W. BUILDABLE AREA
272	9	POST OAK	QUERCUS STELLATA	TO BE REMOVED	PROTECTED	GOOD		DEDICATED R.O.W. BUILDABLE AREA
273	8.5	EASTERN RED CEDAR	JUNIPERUS VIRGINIANA	TO BE REMOVED		GOOD		
274	19.5	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED-SPECIMEN	FAIR		
275	6	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
276	7	GUM BUMELIA	SIDEROXYLON LANUGINOSUM	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
277	7.5	EASTERN RED CEDAR	JUNIPERUS VIRGINIANA	TO BE REMOVED		GOOD		
278	7	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
279	6.5	GUM BUMELIA	SIDEROXYLON LANUGINOSUM	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
280	10.5	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
281	8.5	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
282	15	OSAGE ORANGE	MACLURA POMIFERA	TO BE REMOVED		POOR		
283	31.5	POST OAK	QUERCUS STELLATA	TO REMAIN	PROTECTED-SPECIMEN	GOOD	6	BUILDABLE AREA
284	6	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		OUTSIDE BUILDABLE AREA
285	31	POST OAK	QUERCUS STELLATA	TO BE REMOVED	PROTECTED-SPECIMEN	GOOD		
286	7	GREEN ASH	FRAXINUS PENNSYLVANICA	TO BE REMOVED	PROTECTED	POOR		DEDICATED R.O.W. BUILDABLE AREA
287	6	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
288	6.5	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
289	20	POST OAK	QUERCUS STELLATA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
290	14	POST OAK	QUERCUS STELLATA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
291	8	EASTERN RED CEDAR	JUNIPERUS VIRGINIANA	TO BE REMOVED		GOOD		
292	6.5	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
293	6	OSAGE ORANGE	MACLURA POMIFERA	TO BE REMOVED		GOOD		
294	14	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
295	11	CEDAR ELM	ULMUS CRASSIFOLIA	TO REMAIN	PROTECTED	GOOD	1	
296	10.5	EASTERN RED CEDAR	JUNIPERUS VIRGINIANA	TO BE REMOVED		GOOD		
297	10	CEDAR ELM	ULMUS CRASSIFOLIA	TO REMAIN	PROTECTED	GOOD	1	BUILDABLE AREA
298	7	CEDAR ELM	ULMUS CRASSIFOLIA	TO REMAIN	PROTECTED	GOOD	1	BUILDABLE AREA
299	10	CEDAR ELM	ULMUS CRASSIFOLIA	TO REMAIN	PROTECTED	GOOD	1	BUILDABLE AREA
300	6.5	EASTERN RED CEDAR	JUNIPERUS VIRGINIANA	TO REMAIN		GOOD		
301	6.5	HACKBERRY	CELTIS LAEVIGATA	TO REMAIN		GOOD		
302	10	CEDAR ELM	ULMUS CRASSIFOLIA	TO REMAIN	PROTECTED	GOOD	1	BUILDABLE AREA
303	24	POST OAK	QUERCUS STELLATA	TO REMAIN	PROTECTED-SPECIMEN	FAIR	1	
304	6	HACKBERRY	CELTIS LAEVIGATA	TO REMAIN		GOOD		
305	16	CEDAR ELM	ULMUS CRASSIFOLIA	TO REMAIN	PROTECTED	GOOD	1	BUILDABLE AREA
306	36	CEDAR ELM	ULMUS CRASSIFOLIA	TO REMAIN	PROTECTED-SPECIMEN	GOOD	6	BUILDABLE AREA
307	23.5	CEDAR ELM	ULMUS CRASSIFOLIA	TO REMAIN	PROTECTED-SPECIMEN	GOOD	4	BUILDABLE AREA
308	33.5	POST OAK	QUERCUS STELLATA	TO BE REMOVED		DEAD		
309	8.5	EASTERN RED CEDAR	JUNIPERUS VIRGINIANA	TO BE REMOVED		GOOD		
310	13.5	CEDAR ELM	ULMUS CRASSIFOLIA	TO REMAIN	PROTECTED	GOOD	1	BUILDABLE AREA
311	30.5	POST OAK	QUERCUS STELLATA	TO REMAIN	PROTECTED-SPECIMEN	GOOD	6	BUILDABLE AREA
312	10	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
313	32.2	POST OAK	QUERCUS STELLATA	TO BE REMOVED	PROTECTED-SPECIMEN	GOOD		
314	9	GREEN ASH	FRAXINUS PENNSYLVANICA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
315	7	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
316	6	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
317	8	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
318	6	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
319	8	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
320	13	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
321	7	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
322	6.5	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
323	7	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
324	16	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
325	7	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
326	10	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
327	24.5	POST OAK	QUERCUS STELLATA	TO BE REMOVED	PROTECTED-SPECIMEN	GOOD		
328	22.5	POST OAK	QUERCUS STELLATA	TO BE REMOVED	PROTECTED-SPECIMEN	GOOD		
329	25.5	POST OAK	QUERCUS STELLATA	TO BE REMOVED	PROTECTED-SPECIMEN	GOOD		
330	33.5	POST OAK	QUERCUS STELLATA	TO BE REMOVED	PROTECTED-SPECIMEN	GOOD		
331	9	PECAN	CARYA ILLINOINENSIS	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
332	9.5	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
333	6	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
334	7	PECAN	CARYA ILLINOINENSIS	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
335	6	JAPANESE PRIVET	LIGUSTRUM JAPONICUM	TO BE REMOVED		GOOD		
336	15	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
337	26	POST OAK	QUERCUS STELLATA	TO BE REMOVED	PROTECTED-SPECIMEN	GOOD		
338	23	JAPANESE PRIVET	LIGUSTRUM JAPONICUM	TO BE REMOVED		GOOD		
339	11	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		

TREE SURVEY FIELD DATA								
No.	Dia. (inches)	Species (common name)	Species (botanical name)	Status	Protected	Health	Tree Credits	Remarks
340	6	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
341	7	JAPANESE PRIVET	LIGUSTRUM JAPONICUM	TO BE REMOVED		GOOD		
342	9	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
343	10.5	JAPANESE PRIVET	LIGUSTRUM JAPONICUM	TO BE REMOVED		GOOD		
344	8	OSAGE ORANGE	MACLURA POMIFERA	TO BE REMOVED		GOOD		
345	10.5	OSAGE ORANGE	MACLURA POMIFERA	TO BE REMOVED		GOOD		
346	8.5	CHINESE PISTACHE	PISTACIA CHINENSIS	TO BE REMOVED		GOOD		
347	7	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
348	6	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
349	8	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
350	15	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
351	12.5	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
352	16.5	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
353	16	GREEN ASH	FRAXINUS PENNSYLVANICA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
354	11	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
355	9	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
356	9	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
357	6	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
358	9	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
359	6	HERCULES' CLUB	ZANTHOXYLUM CLAVA-HERCULIS	TO BE REMOVED		GOOD		
360	16.5	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
361	12	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		POOR		
362	19	OSAGE ORANGE	MACLURA POMIFERA	TO BE REMOVED		GOOD		
363	17	OSAGE ORANGE	MACLURA POMIFERA	TO BE REMOVED		GOOD		
364	16	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
365	6	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		POOR		
366	7	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		POOR		
367	7	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
368	7.5	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
369	9	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		POOR		
370	6	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		POOR		
371	17.5	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
372	9	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
373	6	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
374	11	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
375	8.5	OSAGE ORANGE	MACLURA POMIFERA	TO BE REMOVED		POOR		
376	18	OSAGE ORANGE	MACLURA POMIFERA	TO BE REMOVED		GOOD		
377	7.5	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
378	8.5	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
379	6	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
380	7	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
381	10	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
382	8	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
383	7	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
384	12	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
385	8	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
386	7	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
387	6	HERCULES' CLUB	ZANTHOXYLUM CLAVA-HERCULIS	TO BE REMOVED		GOOD		
388	6	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
389	9	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
390	15.5	JAPANESE PRIVET	LIGUSTRUM JAPONICUM	TO BE REMOVED		GOOD		
391	18	JAPANESE PRIVET	LIGUSTRUM JAPONICUM	TO BE REMOVED		GOOD		
392	15	JAPANESE PRIVET	LIGUSTRUM JAPONICUM	TO BE REMOVED		GOOD		
393	33	POST OAK	QUERCUS STELLATA	TO BE REMOVED	PROTECTED-SPECIMEN	FAIR		
394	9	JAPANESE PRIVET	LIGUSTRUM JAPONICUM	TO BE REMOVED		GOOD		
395	11	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
396	8.5	POST OAK	QUERCUS STELLATA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
397	11	BRADFORD PEAR	PYRUS CALLERYANA	TO BE REMOVED		POOR		
398	27	POST OAK	QUERCUS STELLATA	TO BE REMOVED	PROTECTED-SPECIMEN	GOOD		
399	8	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
400	12	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
401	10	GUM BUMELIA	SIDEROXYLON LANUGINOSUM	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
402	7	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
403	7	POST OAK	QUERCUS STELLATA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
405	11	BLACKJACK OAK	QUERCUS MARILANDICA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
406	6	POST OAK	QUERCUS STELLATA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
407	31	POST OAK	QUERCUS STELLATA	TO BE REMOVED	PROTECTED-SPECIMEN	GOOD		
408	30.5	POST OAK	QUERCUS STELLATA	TO BE REMOVED	PROTECTED-SPECIMEN	GOOD		
409	23	POST OAK	QUERCUS STELLATA	TO BE REMOVED	PROTECTED-SPECIMEN	GOOD		
410	13	JAPANESE PRIVET	LIGUSTRUM JAPONICUM	TO BE REMOVED		GOOD		
411	14	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
412	7	HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		GOOD		
413	16.5	JAPANESE PRIVET	LIGUSTRUM JAPONICUM	TO BE REMOVED		GOOD		
414	7	JAPANESE PRIVET	LIGUSTRUM JAPONICUM	TO BE REMOVED		GOOD		
415	14.5	JAPANESE PRIVET	LIGUSTRUM JAPONICUM	TO BE REMOVED		GOOD		
416	6	GREEN ASH	FRAXINUS PENNSYLVANICA	TO BE REMOVED		GOOD		
417	22	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED-SPECIMEN	POOR		Measured at 1'
418	5	GREEN ASH	FRAXINUS PENNSYLVANICA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
419	8	GREEN ASH	FRAXINUS PENNSYLVANICA	TO BE REMOVED	PROTECTED	GOOD		BUILDABLE AREA
501				TO BE REMOVED		DEAD		
502		HACKBERRY	CELTIS LAEVIGATA	TO BE REMOVED		DEAD		
503		OSAGE ORANGE	MACLURA POMIFERA	TO BE REMOVED		DEAD		
504		HERCULES' CLUB	ZANTHOXYLUM CLAVA-HERCULIS	TO BE REMOVED		DEAD		
505		GREEN ASH	FRAXINUS PENNSYLVANICA	TO BE REMOVED		DEAD		
506		POST OAK	QUERCUS STELLATA	TO BE REMOVED		DEAD		
507				TO BE REMOVED		DEAD		

Total Caliper Inches of Specimen Trees on Site to be Removed (Total: 33 Specimen Trees)	**829**	
Total Caliper Inches of Specimen Trees to be Removed	**634**	
Total Mitigation Required for Specimen Trees Removed	**1,268**	
Replacement Trees Required for Specimen Trees to be Removed		**423**
Total Protected Trees On Site	**164**	
Total Protected Trees to be Removed in Buildable Area / Mitigation Trees Required		**162**
Total Caliper of Protected Trees Removed Outside Buildable Area	**17**	
Total Mitigation Due for Protected Trees Removed Outside of Buildable Area		**26**
Buildable Area Tree Credits		**-42**
Total Mitigation Trees Required		**568**

TIG

BUILD TO SUIT For

NIAGARA CONSERVATION ON OLD GERAULT

FLOWER MOUND, TEXAS

MEINHARDT & ASSOCIATES ARCHITECTS, P.L.L.C
14901 DALLAS PARKWAY
SUITE 630
DALLAS TEXAS 75254
972 960-9860

REGISTERED LANDSCAPE ARCHITECT
TERRI ANN HALL
2246
STATE OF TEXAS
09.30.20

DATE: 08.03.2020

JOB # 20-204

TREE SURVEY DATA

SHEET:

L1.03

BELLE FIRMA
4245 North Central Expy
Suite 501
Dallas, Texas 75205
214.865.7192 office

Development Standards

Planned Development District - 179 (PD-179)
Niagara Conversation

The development on the property comprising approximately 7.594 acres of land within the corporate limits of the Town of Flower Mound ("Town") shall be in accordance with the Town of Flower Mound *Master Plan* and the Land Development Regulations of the Town of Flower Mound, Texas, as amended, and shall be subject to the following conditions and requirements:

A. EXHIBITS.

1. The following Exhibits are incorporated into this planned development.

   a. Exhibit "C": Conceptual Site Plan.
   b. Exhibit "D": Conceptual Landscape Plan.
   c. Exhibit "E": Conceptual Elevations.

B. PERMITTED USES. The uses listed as Permitted Uses in the Campus Industrial District (CI) in the Town's Zoning Ordinance shall be permitted in the area designated on Exhibit "C".

C. SPECIFIC USES. The uses listed as Specific Uses in the Campus Industrial District (CI) in the Town's Zoning Ordinance shall be permitted in the area designated on Exhibit "C" with a Specific Use Permit (SUP) approved by the Town Council.

D. TEMPORARY USES. The uses listed as Temporary Uses in the Campus Industrial District (CI) in the Town's Zoning Ordinance shall be permitted in the area designated on Exhibit "C" as only upon approval of a temporary use permit in accordance with the procedures and standards of 78-87 of the Land Development Code, "Temporary Use Permits".

E. DIMENSIONAL REGULATIONS. The dimensional regulations listed in the Campus Industrial District (CI) in the Town's Zoning Ordinance shall be required for this Planned Development.

F. EXCEPTIONS. The following exceptions to the Town's Ordinances shall apply to this Planned Development.

1. An exception to Section 82-376 of the Town Code that requires overhead utilities to be placed underground is granted.

TOWN OF FLOWER MOUND, TEXAS

ORDINANCE NO.

AN ORDINANCE OF THE TOWN OF FLOWER MOUND, TEXAS, AMENDING THE OFFICIAL ZONING MAP, EXHIBIT "A" OF SUBPART B, LAND DEVELOPMENT REGULATIONS, OF THE CODE OF ORDINANCES OF THE TOWN OF FLOWER MOUND, TEXAS, BY CHANGING THE ZONING ON APPROXIMATELY 7.594 ACRES OF LAND SITUATED IN THE J. TURNER SURVEY, ABSTRACT NO. 1251, FROM AGRICULTURAL DISTRICT (A) USES TO PLANNED DEVELOPMENT DISTRICT-179 (PD-179) WITH CAMPUS INDUSTRIAL (CI) USES IN ACCORDANCE WITH THE TOWN'S MASTER PLAN AND SPECIFIC REQUIREMENTS AND EXHIBITS INCORPORATED HEREIN; REPEALING ALL CONFLICTING ORDINANCES; PROVIDING A SEVERABILITY CLAUSE; PROVIDING A PENALTY FOR VIOLATIONS HEREOF IN ACCORDANCE WITH SECTION 1-13 OF THE CODE OF ORDINANCES OF THE TOWN OF FLOWER MOUND; PROVIDING A SAVINGS CLAUSE; PROVIDING FOR PUBLICATION; AND PROVIDING AN EFFECTIVE DATE.

WHEREAS, the Town of Flower Mound is a home rule municipality acting under its charter adopted by the electorate pursuant to Article XI, Section 5, of the Texas Constitution and Chapter 9 of the Local Government Code; and

WHEREAS, the Town Council of the Town of Flower Mound heretofore adopted the Land Development Regulations of the Town of Flower Mound, as amended, which Ordinance regulates and restricts the location and use of buildings, structures and land for trade, industry, residence, and other purposes, and provides for the establishment of zoning districts of such number, shape and area as may be best suited to carry out these regulations; and

WHEREAS, in accordance with Chapter 78 of the Land Development Regulations, the owners of the property described as approximately 7.594 acres of land situated in the J. Turner Survey, Abstract No. 1251, Denton County, Texas, have filed an application to change the zoning from Agricultural District (A) uses to Planned Development District-179 (PD-179) with Campus Industrial (CI) uses; and

WHEREAS, the Planning and Zoning Commission of the Town of Flower Mound, Texas held a public hearing on November 9, 2020, and the Town Council of the Town of Flower Mound, Texas, held a public hearing on January 4, 2021, with respect to the proposed rezoning as described herein; and

WHEREAS, the Town has complied with all requirements of Chapter 211 of the Local Government Code, Chapter 78 of the Land Development Regulations, and all other laws dealing with notice, publication and procedural requirements for the approval of a rezoning on the property; and

WHEREAS, the Town Council finds that amendment of the Zoning map as outlined herein is in the best interest of the Town of Flower Mound and will promote the health, safety, and general welfare of the citizens of the Town of Flower Mound and the general public.

NOW, THEREFORE, BE IT ORDAINED BY THE TOWN COUNCIL OF THE TOWN OF FLOWER MOUND, TEXAS, THAT:

SECTION 1

The Land Development Regulations of the Town of Flower Mound, Texas, as amended, are hereby amended on the hereinafter described property and area to establish a planned development district as shown below:

Approximately 7.594 acres of land situated in the J. Turner Survey, Abstract No. 1251, Denton County, Texas, and more fully described in Exhibit "A" hereto.

Planned Development District-179 (PD-179) with Campus Industrial (CI) uses.

SECTION 2

The development standards, conceptual site plan, conceptual landscape plan, and conceptual elevations of the proposed Planned Development District No. 179 (PD-179), attached hereto as Exhibits "B," "C," "D," and "E," each incorporated herein for all purposes allowed by law, are hereby approved as the development standards, conceptual site plan, conceptual landscape plan, and conceptual elevations for this Planned Development District No. 179 (PD-179).

SECTION 3

The official map of the Town of Flower Mound is hereby amended and the Director of Planning Services is directed to revise the official zoning map to reflect the approved Planned Development District No. 179 (PD-179), as set forth above.

SECTION 4

The use of the property described above shall be subject to all restrictions, terms and conditions contained in Exhibits "B," "C," "D," and "E," attached hereto, as well as the applicable regulations contained in the Land Development Regulations and all other applicable and pertinent ordinances of the Town of Flower Mound.

SECTION 5

This Ordinance shall be cumulative of all provisions of ordinances and of the Code of Ordinances of the Town of Flower Mound, Texas, as amended, except when the provisions of this Ordinance are in direct conflict with the provisions of such ordinances and such code, in which event the conflicting provisions of such ordinances and such code are hereby repealed.

SECTION 6

It is hereby declared to be the intention of the Town Council that the sections, paragraphs, sentences, clauses, and phrases of this Ordinance are severable, and if any section, paragraph, sentence, clause, or phrase of this Ordinance shall be declared unconstitutional by the valid judgment or decree of any court of competent jurisdiction, such unconstitutionality shall not affect any of the remaining sections, paragraphs, sentences, clauses, and phrases of this Ordinance, since the same would have been enacted by the Town Council without the incorporation in this Ordinance of any such unconstitutional section, paragraph, sentence, clause or phrase.

SECTION 7

Any person, firm, or corporation who violates any provision of this Ordinance as adopted by the Town Council of the Town of Flower Mound shall be deemed guilty of a misdemeanor and, upon conviction thereof, shall be punished by a fine as provided in Section 1-13 of the Code of Ordinances of the Town of Flower Mound. Each day any such violation or violations exist shall constitute a separate offense and shall be punishable as such.

SECTION 8

All rights and remedies of the Town of Flower Mound are expressly saved as to any and all violations of the provisions of the Land Development Regulations or any ordinances governing zoning that have accrued at the time of the effective date of this Ordinance; and, as to such accrued violations and all pending litigation, both civil and criminal, whether pending in court or not, under such ordinances, same shall not be affected by this Ordinance but may be prosecuted until final disposition by the courts.

SECTION 9

The Town Secretary of the Town of Flower Mound is hereby directed to publish the caption in the official newspaper of the Town of Flower Mound as required by Section 3.07 of the Charter of the Town of Flower Mound.

SECTION 10

This Ordinance shall take effect and be in full force from and after the date of its passage and publication as required by law, and it is so ordained.

DULY PASSED AND APPROVED BY THE TOWN COUNCIL OF THE TOWN OF FLOWER MOUND, TEXAS, BY A VOTE OF ___ TO ___, ON THIS THE 4TH DAY OF JANUARY, 2021.

APPROVED:

_____
Steve Dixon, **MAYOR**

ATTEST:

_____
Theresa Scott, **TOWN SECRETARY**

Exhibit A
DESCRIPTION OF PROPERTY SURVEYED

DESCRIPTION, of a 7.594 acre tract of land situated in the J. Turner Survey, Abstract No. 1251, Denton County, Texas; said tract being all of that certain tract of land described in Warranty Deed to Robert C. Douglas & Patricia Ann Douglas recorded in Volume 456, Page 343 of the Deed Records of Denton County, Texas; said 7.594 acre tract being more particularly described as follows:

BEGINNING, at a 5/8-inch iron rod with "A.R.S." cap set for corner in Old Gerault Road (a variable width right-of-way); said point being the northwest corner of said Old Gerault Road as dedicated by plat recorded in Cabinet U, Page 484 of the Plat Records of Denton County, Texas;

THENCE, North 00 degrees, 51 minutes, 35 seconds West, along the approximate centerline of said Old Gerault Road, a distance of 603.83 feet to a 5/8-inch iron rod with "A.R.S." cap set for corner;

THENCE, North 16 degrees, 06 minutes, 35 seconds West, continuing along the said approximate centerline of said Old Gerault Road a distance of 93.03 feet to a 5/8-inch iron rod with "A.R.S." cap set for corner; said point being the southwest corner of that certain tract of land described in Warranty Deed to YO-KO LLC recorded in Instrument No. D215290774 of the Official Public Records of Tarrant County, Texas;

THENCE, South 89 degrees, 44 minutes, 44 seconds East, departing the said centerline of Old Gerault Road and along the south line of said YO-KO LLC tract, a distance of 293.99 feet to a 1/2-inch iron rod found for corner; said point being the southeast corner of said YO-KO LLC tract and being in the west line of Lot 7X, Block A of the lakeside Ranch Business Park Addition, an addition to the Town of Flower Mound, Texas recorded in Cabinet X, Page 78 of said Plat Records;

THENCE, South 01 degrees, 14 minutes, 44 seconds East, along the said west line of Lot 7X, a distance of 172.65 feet to a 5/8-inch iron rod found for corner at the southwest corner of said Lot 7X;

THENCE, North 88 degrees, 23 minutes, 25 seconds East, along the south line of said Lot 7X, a distance of 276.97 feet to a 1-inch pipe found for corner at the northernmost northwesterly corner of Lot 1R, Block A of Lakeside Trade Center, an addition to the Town of Flower Mound, Texas recorded in Cabinet V, Page 843 of said Plat Records;

THENCE, South 01 degrees, 36 minutes, 35 seconds East, departing the said south line of Lot 7X and along the west line of said Lot 1R, a distance of 511.64 feet to a 5/8-inch iron rod with "A.R.S." cap set for corner; said point being an ell corner of said Lot 1R;

THENCE, South 88 degrees, 23 minutes, 25 seconds West, a north line of said Lot 1R, passing at a distance of 520.67 feet, the westernmost northwest corner of said Lot 1R, continuing for a total distance of 554.32 feet to the POINT OF BEGINNING;

CONTAINING: 330,798 square feet or 7.594 acres of land, more or less.

Exhibit B
Development Standards

Planned Development District - 179 (PD-179)
Niagara Conversation

The development on the property comprising approximately 7.594 acres of land within the corporate limits of the Town of Flower Mound ("Town") shall be in accordance with the Town of Flower Mound *Master Plan* and the Land Development Regulations of the Town of Flower Mound, Texas, as amended, and shall be subject to the following conditions and requirements:

A. EXHIBITS.

1. The following Exhibits are incorporated into this planned development.

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D. TEMPORARY USES. The uses listed as Temporary Uses in the Campus Industrial District (CI) in the Town's Zoning Ordinance shall be permitted in the area designated on Exhibit "C" as only upon approval of a temporary use permit in accordance with the procedures and standards of 78-87 of the Land Development Code, "Temporary Use Permits."

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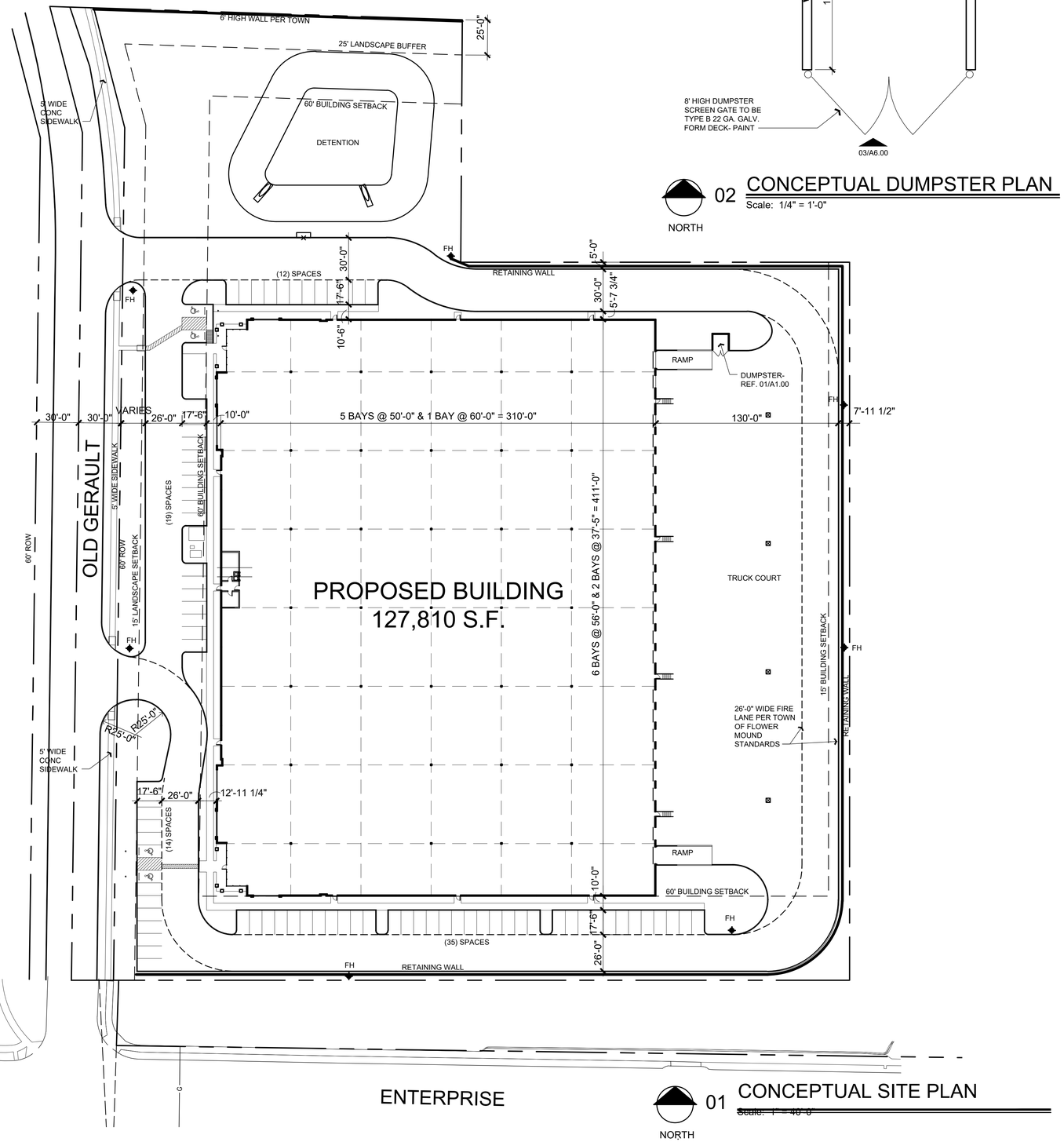
F. EXCEPTIONS. The following exceptions to the Town's Ordinances shall apply to this Planned Development.

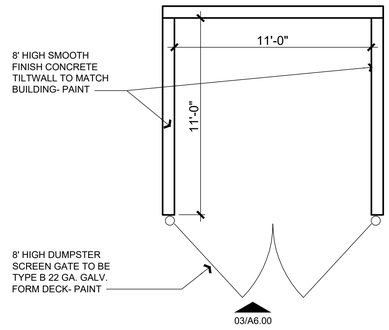
1. An exception to Section 82-376 of the Town Code that requires overhead utilities to be placed underground is granted.



NORTH

02 CONCEPTUAL DUMPSTER PLAN

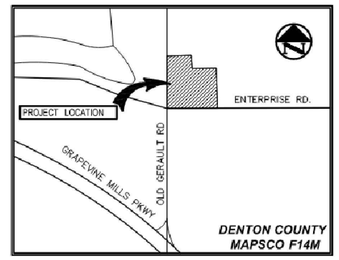
Scale: 1/4" = 1'-0"



NORTH

01 CONCEPTUAL SITE PLAN

Scale: 1" = 40'-0"



VICINITY MAP
(NOT TO SCALE)

GENERAL NOTES

1. ALL EXPOSED CONCRETE, INCLUDING BUT NOT LIMITED TO RETAINING/DETAINING WALLS, TURN-DOWN CURBS, AND TREE RETAINING WALLS, SHALL BE CLAD IN A MATERIAL TO MATCH THE MATERIALS ON THE MAIN BUILDING ON THE SITE.
2. OR ALL RETAINING/DETAINING WALLS SHALL BE CLAD IN A MATERIAL TO COMPLEMENT THE MATERIALS AND COLORS WITHIN THIS DEVELOPMENT.
3. ALL GROUND BASED MECHANICAL UNITS AND/OR EQUIPMENT SHALL BE SCREENED WITH LIVE SCREENING OR MASONRY ENCLOSURE. MASONRY ENCLOSURE SHALL BE CLAD IN A MATERIAL TO MATCH THE MATERIALS ON THE BUILDING.
4. ALL ROOF-MOUNTED MECHANICAL UNITS AND/OR EQUIPMENT SHALL BE SCREENED FROM VIEW IN ACCORDANCE WITH SECTION 82-273 OF THE LAND DEVELOPMENT REGULATIONS.
5. SIGNS REQUIRE A SEPARATE BUILDING PERMIT, ANY SIGNS DEPICTED ON THE SUBJECT SITE PLAN/ELEVATIONS ARE NOT APPROVED AS A PART OFTHIS REVIEW AND MUST COMPLY WITH ALL APPLICABLE TOWN REGULATIONS.

SITE DATA TABLE

PHYSICAL ADDRESS	XX OLD GERAULT	
GROSS SITE AREA	7.59 AC and 330,789 SF	
NET SITE AREA	4.66 AC and 202,979 SF	
ZONING	CI (CAMPUS INDUSTRIAL)	
CURRENT USE	AGRICULTURAL	
LOT COVERAGE DATA		
BUILDING COVERAGE	41% / 127,810 S.F	
IMPERVIOUS AREA	40% / 122,102 S.F.	
PERVIOUS AREA	19% / 59,967 S.F.	
PARKING SUMMARY	REQUIRED	PROVIDED
SURFACE PARKING		
OFFICE	42.6	43
WAREHOUSE	57.5	57
SUB TOTAL PARKING	100.1	
20% REDUCTION	-20	-20
TOTAL PARKING	80	80
BUILDING DATA		
BUILDING	1 STORY	
PEAK HEIGHT	45 FEET and 0 INCHES	
MEAN HEIGHT	40 FEET and 3 INCHES	
TOTAL SQUARE FOOTAGE	127,810 SF	

TIG

BUILD TO SUIT For

NIAGARA CONSERVATION ON OLD GERAULT

FLOWER MOUND, TEXAS

MEINHARDT & ASSOCIATES ARCHITECTS, P.L.L.C
14643 DALLAS PARKWAY
SUITE 636
DALLAS TEXAS 75254
972 960-8660

NOT FOR REGULATORY APPROVAL, PERMITTING, OR CONSTRUCTION

DATE: 09.04.2020
JOB # 20-204
SITE PLAN
SHEET:
A1.00

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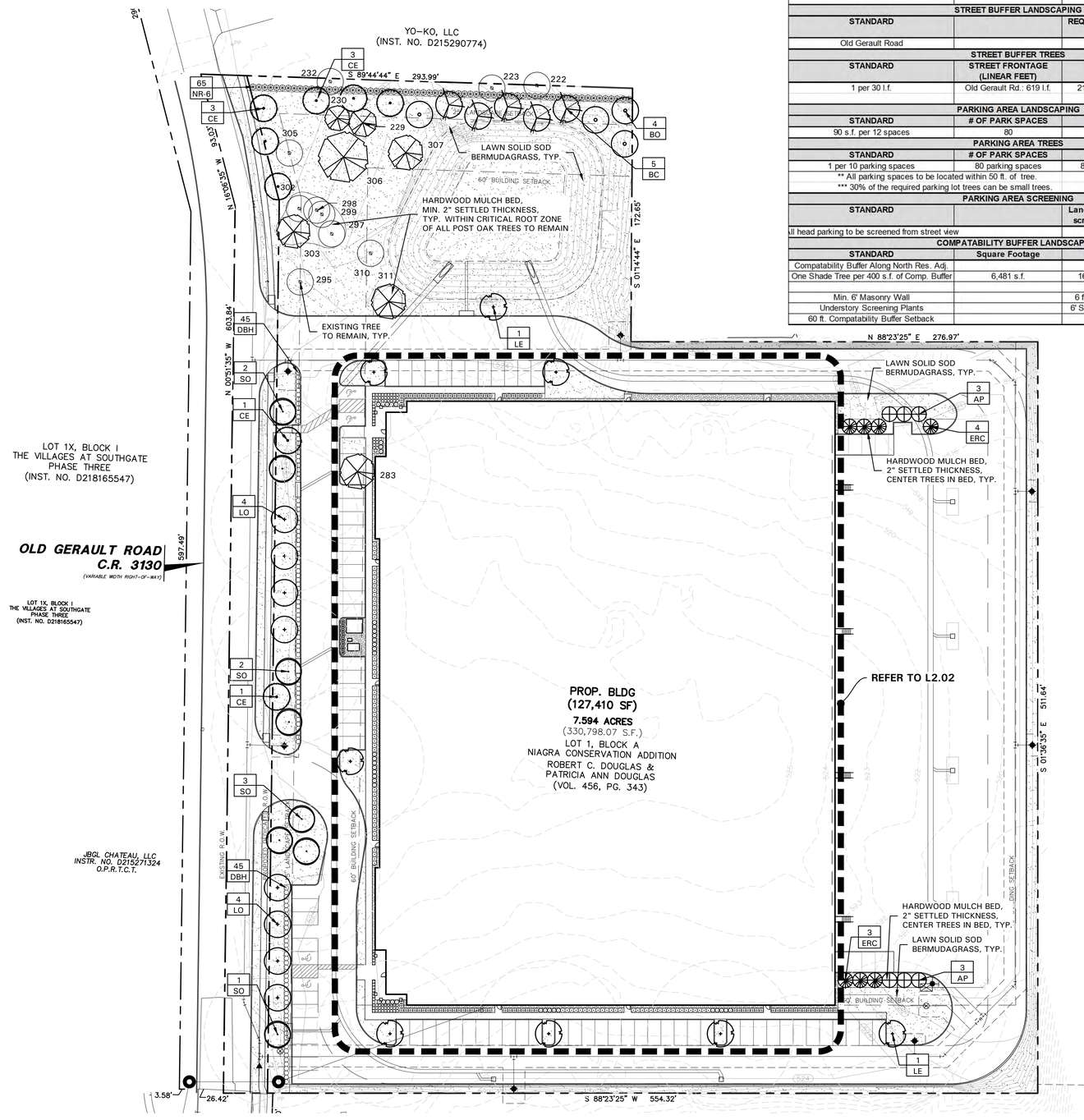


THE TOWN OF FLOWER MOUND - LANDSCAPE CONFORMANCE CHART			
STREET YARD LANDSCAPING			
STANDARD	**TOTAL STREET YARD**	**REQUIRED**	**PROVIDED**
Min. 20% of street yard	48,492 s.f.	9,698 s.f. 20%	23,144 s.f. 47%
STREET YARD TREES			
STANDARD	**TOTAL STREET YARD (SQUARE FEET)**	**REQUIRED**	**PROVIDED**
Between 10,000 and 110,000 s.f. = 10 Trees + 1 Tree for every 2,500 s.f. over 10,000 s.f.	50,590 s.f. of Street Yard	26 Trees, 3" cal.	26 Trees, 3" cal.
STREET BUFFER LANDSCAPING			
STANDARD		**REQUIRED BUFFER WIDTH**	**PROVIDED**
Old Gerault Road		15 ft.	15 ft.
STREET BUFFER TREES			
STANDARD	**STREET FRONTAGE (LINEAR FEET)**	**REQUIRED**	**PROVIDED**
1 per 30 l.f.	Old Gerault Rd.: 619 l.f.	21 Trees, 3" cal.	18 Trees, 3" cal. 3 existing trees
PARKING AREA LANDSCAPING			
STANDARD	**# OF PARK SPACES**	**REQUIRED**	**PROVIDED**
90 s.f. per 12 spaces	80	600 s.f.	2,478 s.f.
PARKING AREA TREES			
STANDARD	**# OF PARK SPACES**	**REQUIRED**	**PROVIDED**
1 per 10 parking spaces	80 parking spaces	8 trees, 3" cal.	9 trees, 3" cal.
** All parking spaces to be located within 50 ft. of tree.			1 existing tree
*** 30% of the required parking lot trees can be small trees.			
PARKING AREA SCREENING			
STANDARD		**Landscape berm or screening shrubs**	**PROVIDED**
ll head parking to be screened from street view		3' ht. Screen	Screening shrubs (3' ht.)
COMPATABILITY BUFFER LANDSCAPING			
STANDARD	**Square Footage**	**REQUIRED**	**PROVIDED**
Compatability Buffer Along North Res. Adj.		25 ft.	25 ft.
One Shade Tree per 400 s.f. of Comp. Buffer	6,481 s.f.	16 trees, 3" cal.	13 trees, 3" cal. 3 existing trees
Min. 6' Masonry Wall		6 ft. masonry wall	6 ft. masonry wall
Understory Screening Plants		6' Screening Shrubs	6' Screening Shrubs
60 ft. Compatability Buffer Setback		60 ft.	60 ft.

LANDSCAPE NOTES

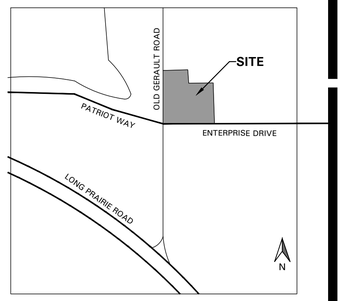
1. CONTRACTOR SHALL VERIFY ALL EXISTING AND PROPOSED SITE ELEMENTS AND NOTIFY LANDSCAPE ARCHITECT OF ANY DISCREPANCIES. SURVEY DATA OF EXISTING CONDITIONS WAS SUPPLIED BY OTHERS.
2. CONTRACTOR SHALL LOCATE ALL EXISTING UNDERGROUND UTILITIES AND NOTIFY LANDSCAPE ARCHITECT OF ANY CONFLICTS. CONTRACTOR SHALL EXERCISE CAUTION WHEN WORKING IN THE VICINITY OF UNDERGROUND UTILITIES.
3. CONTRACTOR SHALL PROVIDE A MINIMUM 2% SLOPE AWAY FROM ALL STRUCTURES.
4. CONTRACTOR SHALL FINE GRADE AREAS TO ACHIEVE FINAL CONTOURS AS INDICATED. LEAVE AREAS TO RECEIVE TOPSOIL 3" BELOW FINAL FINISHED GRADE IN PLANTING AREAS AND 1" BELOW FINAL FINISHED GRADE IN LAWN AREAS.
5. ALL PLANTING BEDS AND LAWN AREAS SHALL BE SEPARATED BY STEEL EDGING. NO STEEL EDGING SHALL BE INSTALLED ADJACENT TO BUILDINGS, WALKS, OR CURBS. CUT STEEL EDGING AT 45 DEGREE ANGLE WHERE IT INTERSECTS WALKS AND CURBS.
6. TOP OF MULCH SHALL BE 1/2" MINIMUM BELOW THE TOP OF WALKS AND CURBS.
7. ALL LAWN AREAS SHALL BE SOLID SOD BERMUDAGRASS, UNLESS OTHERWISE NOTED ON THE DRAWINGS.
8. ALL REQUIRED LANDSCAPE AREAS SHALL BE PROVIDED WITH AN AUTOMATIC UNDERGROUND IRRIGATION SYSTEM WITH RAIN AND FREEZE SENSORS AND EVAPOTRANSPIRATION (ET) WEATHER-BASED CONTROLLERS AND SAID IRRIGATION SYSTEM SHALL BE DESIGNED BY A QUALIFIED PROFESSIONAL AND INSTALLED BY A LICENSED IRRIGATOR.
9. CONTRACTOR SHALL PROVIDE BID PROPOSAL LISTING UNIT PRICES FOR ALL MATERIAL PROVIDED.
10. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL REQUIRED LANDSCAPE AND IRRIGATION PERMITS.

MAINTENANCE NOTES

1. THE OWNER, TENANT AND THEIR AGENT, IF ANY, SHALL BE JOINTLY AND SEVERALLY RESPONSIBLE FOR THE MAINTENANCE OF ALL LANDSCAPE.
2. ALL LANDSCAPE SHALL BE MAINTAINED IN A NEAT AND ORDERLY MANNER AT ALL TIMES. THIS SHALL INCLUDE MOWING, EDGING, PRUNING, FERTILIZING, WATERING, WEEDING AND OTHER SUCH ACTIVITIES COMMON TO LANDSCAPE MAINTENANCE.
3. ALL LANDSCAPE AREAS SHALL BE KEPT FREE OF TRASH, LITTER, WEEDS AND OTHER SUCH MATERIAL OR PLANTS NOT PART OF THIS PLAN.
4. ALL PLANT MATERIAL SHALL BE MAINTAINED IN A HEALTHY AND GROWING CONDITION AS IS APPROPRIATE FOR THE SEASON OF THE YEAR.
5. ALL PLANT MATERIAL WHICH DIES SHALL BE REPLACED WITH PLANT MATERIAL OF EQUAL OR BETTER VALUE.
6. CONTRACTOR SHALL PROVIDE SEPARATE BID PROPOSAL FOR ONE YEAR'S MAINTENANCE TO BEGIN AFTER FINAL ACCEPTANCE.

VICINITY MAP

NOT TO SCALE



GENERAL LAWN NOTES

1. CONTRACTOR SHALL COORDINATE OPERATIONS AND AVAILABILITY OF EXISTING TOPSOIL WITH ON-SITE CONSTRUCTION MANAGER.
2. CONTRACTOR SHALL LEAVE LAWN AREAS 1" BELOW FINAL FINISHED GRADE PRIOR TO TOPSOIL INSTALLATION.
3. CONTRACTOR SHALL FINE GRADE AREAS TO ACHIEVE FINAL CONTOURS AS INDICATED ON CIVIL PLANS. ADJUST CONTOURS TO ACHIEVE POSITIVE DRAINAGE AWAY FROM BUILDINGS. PROVIDE UNIFORM ROUNDING AT TOP AND BOTTOM OF SLOPES AND OTHER BREAKS IN GRADE. CORRECT IRREGULARITIES AND AREAS WHERE WATER MAY STAND.
4. ALL LAWN AREAS SHALL BE FINE GRADED, IRRIGATION TRENCHES COMPLETELY SETTLED AND FINISH GRADE APPROVED BY THE OWNER'S CONSTRUCTION MANAGER OR LANDSCAPE ARCHITECT PRIOR TO LAWN INSTALLATION.
5. CONTRACTOR SHALL REMOVE ALL ROCKS 3/4" DIAMETER AND LARGER, DIRT CLODS, STICKS, CONCRETE SPOILS, ETC. PRIOR TO PLACING TOPSOIL AND LAWN INSTALLATION.
6. CONTRACTOR SHALL MAINTAIN ALL LAWN AREAS UNTIL FINAL ACCEPTANCE. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO: MOWING, WATERING, WEEDING, CULTIVATING, CLEANING AND REPLACING DEAD OR BARE AREAS TO KEEP PLANTS IN A VIGOROUS, HEALTHY CONDITION.
7. CONTRACTOR SHALL GUARANTEE ESTABLISHMENT OF ACCEPTABLE TURF AREA AND SHALL PROVIDE REPLACEMENT FROM LOCAL SUPPLY IF NECESSARY.

SOLID SOD NOTES

1. PLANT SOD BY HAND TO COVER INDICATED AREAS COMPLETELY. ENSURE EDGES OF SOD ARE TOUCHING. TOP DRESS JOINTS BY HAND WITH TOPSOIL TO FILL VOIDS.
2. ROLL GRASS AREAS TO ACHIEVE A SMOOTH, EVEN SURFACE, FREE FROM UNNATURAL UNDULATIONS.
3. WATER SOD THOROUGHLY AS SOD OPERATION PROGRESSES.
4. IF INSTALLATION OCCURS BETWEEN SEPTEMBER 1 AND MARCH 1, OVER-SEED BERMUDAGRASS SOD WITH WINTER RYEGRASS, AT A RATE OF FOUR (4) POUNDS PER ONE THOUSAND (1000) SQUARE FEET.

PLANT LIST

SYMBOL	BOTANICAL NAME	COMMON NAME	QTY.	SIZE	REMARKS
	TREES				
AP	*Pinus nigra*	Austrian Pine	6	6' ht.	B&B or container grown, full to base, 3' spread
BC	*Taxodium distichum*	Bald Cypress	5	3" cal.	container grown, 12' ht., 4' spread, 4' branching ht., matching
BO	*Quercus macrocarpa*	Bur Oak	4	3" cal.	container grown, 12' ht., 4' spread, 4' branching ht., matching
CE	*Ulmus crassifolia*	Cedar Elm	8	3" cal.	B&B, 12' ht., 4' spread, 4' branching ht., matching
ERC	*Juniperus virginiana*	Eastern Redcedar	7	6' ht.	container grown, full to base, 3' spread
LE	*Ulmus parvifolia 'Sempervirens'*	Lacebark Elm	8	3" cal.	container grown, 12' ht., 4' spread, 4' branching ht., matching
LO	*Quercus virginiana*	Live Oak	8	3" cal.	container grown, 12' ht., 4' spread, 4' branching ht., matching
SO	*Quercus shumardii*	Shumard Red Oak	8	3" cal.	container grown, 12' ht., 4' spread, 4' branching ht., matching
	SHRUBS/GROUNDCOVER				
DBH	*Ilex cornuta 'Dwarf Burford'*	Dwarf Burford Holly	120	5 gal.	container full, 24" spread, 36" o.c.
IH	*Raphiolepsis indica 'Jack Evans'*	Indian Hawthorne 'Jack Evans'	85	5 gal.	container full, 20" spread, 36" o.c.
LOR	*Loropetalum chinensis 'Plum Delight'*	Loropetalum 'Plum Delight'	85	5 gal.	container full, 20" spread, 36" o.c.
MIS	*Miscanthus sinensis 'Adagio'*	Miscanthus 'Adagio'	39	5 gal.	container full, 36" o.c.
NRS	*Ilex spp. 'Nellie R. Stevens'*	Nellie R. Stevens Holly	8	7 gal.	container full to base, 36" ht., 36" o.c.
NR-6	*Ilex spp. 'Nellie R. Stevens'*	Nellie R. Stevens Holly	65	15 gal.	container full to base, 36" ht., 48" o.c.
SG	*Salvia greggii 'Red'*	Salvia Greggii	84	5 gal.	container full, 20" spread 24" o.c.

NOTE: ALL TREES SHALL HAVE STRAIGHT TRUNKS AND BE MATCHING WITHIN VARIETIES.
PLANT LIST IS AN AID TO BIDDERS ONLY. CONTRACTOR SHALL VERIFY ALL QUANTITIES ON PLAN.
ALL HEIGHTS AND SPREADS ARE MINIMUMS. ALL PLANT MATERIAL SHALL MEET OR EXCEED REMARKS AS INDICATED.

N

SCALE: 1" = 40'-0"
0 20 40 80

BELLE FIRMA

4245 North Central Expy
Suite 501
Dallas, Texas 75205
214.865.7192 office

TIG

BUILD TO SUIT For

NIAGARA CONSERVATION ON OLD GERAULT

FLOWER MOUND, TEXAS

MEINHARDT & ASSOCIATES ARCHITECTS, P.L.L.C
14643 DALLAS PARKWAY
SUITE 535
DALLAS TEXAS 75254
972 960-8965

REGISTERED LANDSCAPE ARCHITECT
TERRI ANN HALL
2246
STATE OF TEXAS

11.4.20

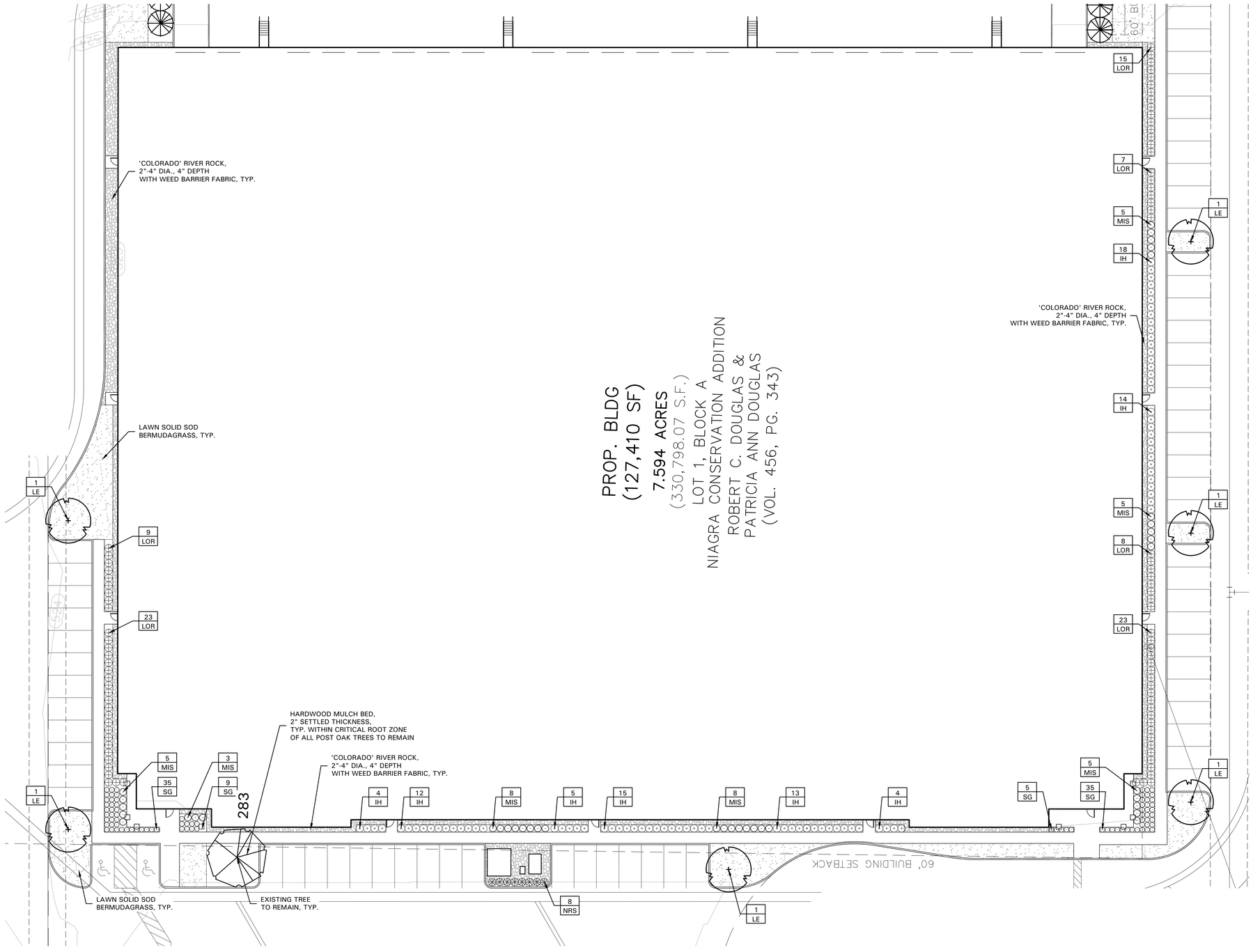
DATE: 08.03.2020

JOB # 20-204

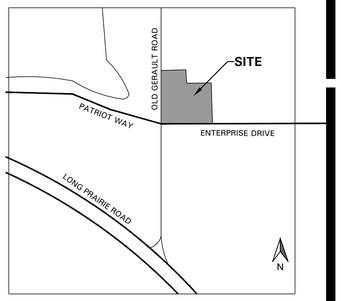
CONCEPTUAL LANDSCAPE PLAN

SHEET:

L2.01



VICINITY MAP
NOT TO SCALE



PLANT LEGEND

SYMBOL	COMMON NAME
AP	Austrian Pine
BC	Bald Cypress
BO	Bur Oak
CE	Cedar Elm
ERC	Eastern Redcedar
LE	Lacebark Elm
LO	Live Oak
SO	Shumard Red Oak
DBH	Dwarf Burford Holly
IH	Indian Hawthorne 'Jack Evans'
LOR	Loropetalum 'Plum Delight'
MIS	Miscanthus 'Adagio'
NRS	Nellie R. Stevens Holly
NR-6	Nellie R. Stevens Holly
SG	Salvia Greggii

REFER TO L2.01 FOR PLANT LIST

SCALE: 1" = 20'-0"
0 10 20 40

BELLE FIRMA

4245 North Central Expy
Suite 501
Dallas, Texas 75205
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TIG

BUILD TO SUIT For
NIAGARA CONSERVATION ON OLD GERAULT
FLOWER MOUND, TEXAS

MEINHARDT & ASSOCIATES ARCHITECTS, P.L.L.C
14643 DALLAS PARKWAY
SUITE 636
DALLAS TEXAS 75254
972 980-8880

REGISTERED LANDSCAPE ARCHITECT
ANN HALL
2246
STATE OF TEXAS
09.30.20

DATE: 08.03.2020
JOB # 20-204
CONCEPTUAL LANDSCAPE ENLARGEMENT PLAN
SHEET:
L2.02

SECTION 32 9300 - LANDSCAPE

PART 1 - GENERAL

1.1 REFERENCED DOCUMENTS

A. Refer to Landscape Plans, notes, details, bidding requirements, special provisions, and schedules for additional requirements.

1.2 DESCRIPTION OF WORK

A. Work included: Furnish all supervision, labor, materials, services, equipment and appliances required to complete the work covered in conjunction with the landscaping covered in these specifications and landscaping plans, including:

1. Planting (trees, shrubs and grasses)
2. Bed preparation and fertilization
3. Notification of sources
4. Water and maintenance until final acceptance
5. Guarantee

1.3 REFERENCE STANDARDS

A. American Standard for Nursery Stock published by American Association of Nurserymen: April 14, 2014 Edition; by American National Standards Institute, Inc. (Z60.1) – plant material

B. American Joint Committee on Horticultural Nomenclature: 1942 Edition of Standardized Plant Names.

C. Texas Association of Nurserymen, Grades and Standards

D. Hortis Third, 1976 - Cornell University

1.4 NOTIFICATION OF SOURCES AND SUBMITTALS

A. Samples: Provide representative quantities of sandy loam soil, mulch, bed mix material, gravel, crushed stone, steel edging and tree stakes. Samples shall be approved by Owner's Authorized Representative before use on the project.

1.5 JOB CONDITIONS

A. General Contractor to complete the following punch list: Prior to Landscape Contractor initiating any portion of landscape installation, General Contractor shall leave planting bed areas three (3") inches below final finish grade of sidewalks, drives and curbs as shown on the drawings. All lawn areas to receive solid sod shall be left one (1") inch below the final finish grade of sidewalks, drives and curbs. All construction debris shall be removed prior to Landscape Contractor beginning any work.

B. Storage of materials and equipment at the job site will be at the risk of the Landscape Contractor. The Owner cannot be held responsible for theft or damage.

1.6 MAINTENANCE AND GUARANTEE

A. Maintenance:

1. The Landscape Contractor shall be held responsible for the maintenance of all work from the time of planting until final acceptance by the Owner. No trees, shrubs, groundcover or grass will be accepted unless they show healthy growth and satisfactory foliage conditions.
2. Maintenance shall include watering of trees and plants, cultivation, weeding spraying, edging, pruning of trees, mowing of grass, cleaning up and all other work necessary of maintenance.
3. A written notice requesting final inspection and acceptance should be submitted to the Owner at least seven (7) days prior to completion. An on-site inspection by the Owner's Authorized Representative will be completed prior to written acceptance.

B. Guarantee:

1. Trees, shrubs and groundcover shall be guaranteed for a twelve (12) month period after final acceptance. The Contractor shall replace all dead materials as soon as weather permits and upon notification of the Owner. Plants, including trees, which have partially died so that shape, size, or symmetry have been damaged, shall be considered subject to replacement. In such cases, the opinion of the Owner shall be final.
   a. Plants used for replacement shall be of the same size and kind as those originally planted and shall be planted as originally specified. All work, including materials, labor and equipment used in replacements, shall carry a twelve (12) month guarantee. Any damage, including ruts in lawn or bed areas, incurred as a result of making replacements shall be immediately repaired.
   b. At the direction of the Owner, plants may be replaced at the start of the next year's planting season. In such cases, dead plants shall be removed from the premises immediately.
   c. When plant replacements are made, plants, soil mix, fertilizer and mulch are to be utilized as originally specified and re-inspected for full compliance with the contract requirements. All replacements are to be included under "Work" of this section.
2. The Owner agrees that for the guarantee to be effective, he will water plants at least twice a week during dry periods and cultivate beds once a month after final acceptance.
3. The above guarantee shall not apply where plants die after acceptance because of injury from storms, hail, freeze, insects, diseases, injury by humans, machines or theft.
4. Acceptance for all landscape work shall be given after final inspection by the Owner provided the job is in a complete, undamaged condition and there is a stand of grass in all lawn areas. At that time, the Owner will assume maintenance on the accepted work.

C. Repairs: Any necessary repairs under the Guarantee must be made within ten (10) days after receiving notice, weather permitting. In the event the Landscape Contractor does not make repairs accordingly, the Owner, without further notice to Contractor, may provide materials and men to make such repairs at the expense to the Landscape Contractor.

1.7 QUALITY ASSURANCE

A. General: Comply with applicable federal, state, county and local regulations governing landscape materials and work.

B. Personnel: Employ only experienced personnel who are familiar with the required work. Provide full time supervision by a qualified foreman acceptable to Landscape Architect.

C. Selection of Plant Material:
1. Make contact with suppliers immediately upon obtaining notice of contract acceptance to select and book materials. Develop a program of maintenance (pruning and fertilization) which will ensure the purchased materials will meet and / or exceed project specifications.
2. Substitutions: Do not make plant material substitutions. If the specified landscape material is not obtainable, submit proof of non-availability to Landscape Architect, together with proposal for use of equivalent material. At the time bids are submitted, the Contractor is assumed to have located the materials necessary to complete the job as specified.
3. Landscape Architect will provide a key identifying each tree location on site. Written verification will be required to document material selection, source and delivery schedules to site.
4. Measurements: Measure trees with branches and trunks or canes in their normal position. Do not prune to obtain required sizes. Take caliper measurements six inches above ground for trees up to and including 4" caliper size, and twelve inches above ground for larger sizes. Measure main body of all plant material of height and spread dimensions, do not measure from branch or root tip-to-tip.
5. Owner's Authorized Representative shall inspect all plant material with requirements for genus, species, cultivar / variety size and quality.
6. Owner's Authorized Representative retains the right to further inspect all plant material upon arrival to the site and during installation for size and condition of root balls and root systems, limbs, branching habit, insects, injuries and latent defects.
7. Owner's Authorized Representative may reject unsatisfactory or defective material at any time during the process work. Remove rejected materials immediately from the site and replace with acceptable material at no additional cost to the Owner. Plants damaged in transit or at job site shall be rejected.

1.8 PRODUCT DELIVERY, STORAGE AND HANDLING

A. Preparation:
1. Balled and Burlapped (B&B) Plants: Dig and prepare shipment in a manner that will not damage roots, branches, shape and future development.
2. Container Grown Plants: Deliver plants in rigid container to hold ball shape and protect root mass.

B. Delivery:
1. Deliver packaged materials in sealed containers showing weight, analysis and name of manufacturer. Protect materials from deterioration during delivery and while stored on site.
2. Deliver only plant materials that can be planted in one day unless adequate storage and watering facilities are available on job site.
3. Protect root balls by heeling in with sawdust or other approved moisture retaining material if not planted within 24 hours of delivery.
4. Protect plants during delivery to prevent damage to root balls or desiccation of leaves. Keep plants moist at all times. Cover all materials during transport.
5. Notify Owner's Authorized Representative of delivery schedule 72 hours in advance job site.
6. Remove rejected plant material immediately from job site.
7. To avoid damage or stress, do not lift, move, adjust to plumb, or otherwise manipulate plants by trunk or stems.

PART 2 - PRODUCTS

2.1 PLANTS

A. General: Well-formed No. 1 grade or better nursery grown stock. Listed plant heights are from tops of root balls to nominal tops of plants. Plant spread refers to nominal outer width of the plant, not to the outer leaf tips. Plants will be individually approved by the Owner's Authorized Representative and his decision as to their acceptability shall be final.

B. Quantities: The drawings and specifications are complimentary. Anything called for on one and not the other is as binding as if shown and called for on both. The plant schedule is an aid to bidders only. Confirm all quantities on plan.

C. Quality and size: Plant materials shall conform to the size given on the plan, and shall be healthy, symmetrical, well-shaped, full branched and well rooted. The plants shall be free from injurious insects, diseases, injuries to the bark or roots, broken branches, objectionable disfigurements, insect eggs and larvae, and are to be of specimen quality.

D. Approval: All plants which are found unsuitable in growth, or are in any unhealthy, badly shaped or undersized condition will be rejected by the Owner's Authorized Representative either before or after planting and shall be removed at the expense of the Landscape Contractor and replaced with acceptable plant as specified at no additional cost to the Owner.

E. Trees shall be healthy, full-branched, well-shaped, and shall meet the minimum trunk and diameter requirements of the plant schedule. Balls shall be firm, neat, slightly tapered and well wrapped in burlap. Any tree loose in the ball or with a broken root ball at time of planting will be rejected. Balls shall be ten (10") inches in diameter for each one (1") inch of trunk diameter, measured six (6") inches above ball. (Nomenclature confirms to the customary nursery usage. For clarification, the term "multi-trunk" defines a plant having three (3) or more trunks of nearly equal diameter.)

F. Pruning: All pruning of trees and shrubs, as directed by the Landscape Architect prior to final acceptance, shall be executed by the Landscape Contractor at no additional cost to the Owner.

2.2 SOIL PREPARATION MATERIALS

A. Sandy Loam:
1. Friable, fertile, dark, loamy soil, free of clay lumps, subsoil, stones and other extraneous material and reasonably free of weeds and foreign grasses. Loam containing Dallasgrass or Nutgrass shall be rejected.
2. Physical properties as follows:
   a. Clay – between 7-27 percent
   b. Silt – between 15-25 percent
   c. Sand – less than 52 percent
3. Organic matter shall be 3%-10% of total dry weight.
4. If requested, Landscape Contractor shall provide a certified soil analysis conducted by an approved soil testing laboratory verifying that sandy loam meets the above requirements.

B. Organic Material: Compost with a mixture of 80% vegetative matter and 20% animal waste. Ingredients should be a mix of course and fine textured material.

C. Premixed Bedding Soil as supplied by Vital Earth Resources, Gladewater, Texas; Professional Bedding Soil as supplied by Living Earth Technology, Dallas, Texas or Acid Gro Municipal Mix as supplied by Soil Building Systems, Dallas, Texas or approved equal.

D. Sharp Sand: Sharp sand must be free of seeds, soil particles and weeds.

E. Mulch: Double Shredded Hardwood Mulch, partially decomposed, dark brown. Living Earth Technologies or approved equal.

F. Organic Fertilizer: Fertilaid, Sustane, or Green Sense or equal as recommended for required applications. Fertilizer shall be delivered to the site in original unopened containers, each bearing the manufacturer's guaranteed statement of analysis.

G. Commercial Fertilizer: 10-20-10 or similar analysis. Nitrogen source to be a minimum 50% slow release organic Nitrogen (SCU or UF) with a minimum 8% sulfur and 4% iron, plus micronutrients.

H. Peat: Commercial sphagnum peat moss or partially decomposed shredded pine bark or other approved organic material.

2.3 MISCELLANEOUS MATERIALS

A. Steel Edging: All steel edging shall be 3/16" thick x 4" deep x 16' long with 6 stakes per section, painted black at the factory as manufactured by The J.D. Russell Company and under its trade name DURAEDGE Heavy Duty Steel.

B. Staking Material for Shade Trees: refer to details.

C. Gravel: Washed native pea gravel, graded 1 inch to 1-1/2 inch.

D. Filter Fabric: 'Mirafi Mirascape' by Mirafi Construction Products available at Lone Star Products, Inc., (469) 523-0444 or approved equal.

E. River Rock: 'Colorado' or native river rock, 2" - 4" dia.

F. Decomposed Granite: Base material shall consist of a natural material mix of granite aggregate not to exceed 1/8" diameter in size and shall be composed of various stages of decomposed earth base.

PART 3 - EXECUTION

3.1 BED PREPARATION & FERTILIZATION

A. Landscape Contractor to inspect all existing conditions and report any deficiencies to the Owner.

B. All planting areas shall be conditioned as follows:
1. Prepare new planting beds by scraping away existing grass and weeds as necessary. Till existing soil to a depth of six (6") inches prior to placing compost and fertilizer. Apply fertilizer as per Manufacturer's recommendations. Add six (6") inches of compost and till into a depth of six (6") inches of the topsoil. Apply organic fertilizer such as Sustane or Green Sense at the rate of twenty (20) pounds per one thousand (1,000) square feet.
2. All planting areas shall receive a two (2") inch layer of specified mulch.
3. Backfill for tree pits shall be as follows: Use existing top soil on site (use imported topsoil as needed) free from large clumps, rocks, debris, caliche, subsoils, etc., placed in nine (9") inch layers and watered in thoroughly.

C. Grass Areas:
1. Blocks of sod should be laid joint to joint (staggered joints) after fertilizing the ground first. Roll grass areas to achieve a smooth, even surface. The joints between the blocks of sod should be filled with topsoil where they are evidently gaped open, then watered thoroughly.

3.2 INSTALLATION

A. Maintenance of plant materials shall begin immediately after each plant is delivered to the site and shall continue until all construction has been satisfactorily accomplished.

B. Plant materials shall be delivered to the site only after the beds are prepared and areas are ready for planting. All shipments of nursery materials shall be thoroughly protected from the drying winds during transit. All plants which cannot be planted at once, after delivery to the site, shall be well protected against the possibility of drying by wind and Balls of earth of B & B plants shall be kept covered with soil or other acceptable material. All plants remain the property of the Contractor until final acceptance.

C. Position the trees and shrubs in their intended location as per plan.

D. Notify the Owner's Authorized Representative for inspection and approval of all positioning of plant materials.

E. Excavate pits with vertical sides and horizontal bottom. Tree pits shall be large enough to permit handling and planting without injury to balls of earth or roots and shall be of such depth that,when planted and settled, the crown of the plant shall bear the same relationship to the finish grade as it did to soil surface in original place of growth.

F. Shrub and tree pits shall be no less than twenty-four (24") inches wider than the lateral dimension of the earth ball and six (6") inches deeper than it's vertical dimension. Remove and haul from site all rocks and stones over three-quarter (¾") inch in diameter. Plants should be thoroughly moist before removing containers.

G. Dig a wide, rough sided hole exactly the same depth as the height of the ball, especially at the surface of the ground. The sides of the hole should be rough and jagged, never slick or glazed.

H. Percolation Test: Fill the hole with water. If the water level does not percolate within 24 hours, the tree needs to move to another location or have drainage added. Install a PVC stand pipe per tree planting detail as approved by the Landscape Architect if the percolation test fails.

I. Backfill only with 5 parts existing soil or sandy loam and 1 part bed preparation. When the hole is dug in solid rock, topsoil from the same area should not be used. Carefully settle by watering to prevent air pockets. Remove the burlap from the top ½ of the ball, as well as all nylon, plastic string and wire. Container trees will usually be root bound, if so follow standard nursery practice of 'root scoring'.

J. Do not wrap trees.

K. Do not over prune.

L. Mulch the top of the ball. Do not plant grass all the way to the trunk of the tree. Leave the area above the top of the ball and mulch with at least two (2") inches of specified mulch.

M. All plant beds and trees to be mulched with a minimum settled thickness of two (2") inches over the entire bed or pit.

N. Obstruction below ground: In the event that rock, or underground construction work or obstructions are encountered in any plant pit excavation work to be done under this section, alternate locations may be selected by the Owner. Where locations cannot be changed, the obstructions shall be removed to a depth of not less than three (3') feet below grade and no less than six (6") inches below the bottom of ball when plant is properly set at the required grade. The work of this section shall include the removal from the site of such rock or underground obstructions encountered at the cost of the Landscape Contractor.

O. Trees and large shrubs shall be staked as site conditions require. Position stakes to secure trees against seasonal prevailing winds.

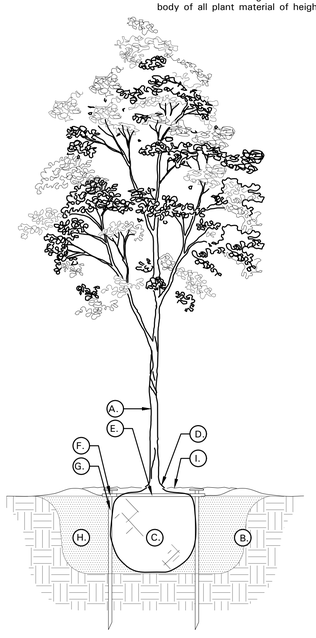
P. Pruning and Mulching: Pruning shall be directed by the Landscape Architect and shall be pruned in accordance with standard horticultural practice following Fine Pruning, Class I pruning standards provided by the National Arborist Association.
1. Dead wood, suckers, broken and badly bruised branches shall be removed. General tipping of the branches is not permitted. Do not cut terminal branches.
2. Pruning shall be done with clean, sharp tools.
3. Immediately after planting operations are completed, all tree pits shall be covered with a layer of organic material two (2") inches in depth. This limit of the organic material for trees shall be the diameter of the plant pit.

Q. Steel Curbing Installation:
1. Curbing shall be aligned as indicated on plans. Stake out limits of steel curbing and obtain Owners approval prior to installation.
2. All steel curbing shall be free of kinks and abrupt bends.
3. Top of curbing shall be ½" maximum height above final finished grade.
4. Stakes are to be installed on the planting bed side of the curbing, as opposed to the grass side.
5. Do not install steel edging along sidewalks or curbs.
6. Cut steel edging at 45 degree angle where edging meets sidewalks or curbs.

3.3 CLEANUP AND ACCEPTANCE

A. Cleanup: During the work, the premises shall be kept neat and orderly at all times. Storage areas for all materials shall be so organized so that they, too, are neat and orderly. All trash and debris shall be removed from the site as work progresses. Keep paved areas clean by sweeping or hosing them at end of each work day.

END OF SECTION



01 TREE PLANTING DETAIL
NOT TO SCALE

TREE PLANTING DETAIL LEGEND AND NOTES

A. TREE: TREES SHALL CONFORM WITH LATEST AMERICAN STANDARD FOR NURSERY STOCK. www.anla.org

B. TREE PIT: WIDTH TO BE AT LEAST TWO (2) TIMES THE DIAMETER OF THE ROOT BALL CENTER TREE IN HOLE & REST ROOT BALL ON UNDISTURBED NATIVE SOIL.

C. ROOT BALL: REMOVE TOP ⅓ BURLAP AND ANY OTHER FOREIGN OBJECT; CONTAINER GROWN STOCK TO BE INSPECTED FOR GIRDLING ROOTS.

D. ROOT FLARE: ENSURE THAT ROOT FLARE IS EXPOSED, FREE FROM MULCH, AND AT LEAST TWO INCHES ABOVE GRADE. TREES SHALL BE REJECTED WHEN GIRDLING ROOTS ARE PRESENT & ROOT FLARE IS NOT APPARENT.

E. ROOTBALL ANCHOR RING: REFER TO MANUFACTURER'S GUIDELINES FOR SIZING. PLACE ROOTBALL ANCHOR RING ON BASE OF ROOTBALL, TRUNK SHOULD BE IN THE CENTER OF THE RING.

F. ROOT ANCHOR BY TREE STAKE SOLUTIONS.

G. NAIL STAKE: REFER TO MANUFACTURER'S GUIDELINES FOR SIZING. INSTALL NAIL STAKES WITH HAMMER OR MALLET FIRMLY INTO UNDISTURBED GROUND. DRIVE NAIL STAKES FLUSH WITH "U" BRACKET ADJACENT TO ROOTBALL (DO NOT DISTURB ROOTBALL).

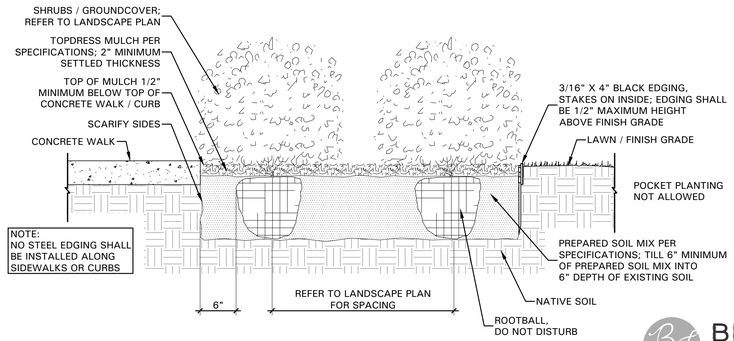
H. BACKFILL: USE EXISTING NATIVE SOIL (no amendments) WATER THOROUGHLY TO ELIMINATE AIR POCKETS.

I. MULCH: DOUBLE SHREDDED HARDWOOD MULCH 2 INCH SETTLED THICKNESS, WITH 2" HT. WATERING RING; ENSURE THAT ROOT FLARE IS EXPOSED. BELOW GROUND STAKE SHOULD NOT BE VISIBLE.

J. TREE STAKES:
TREE STAKE SOLUTIONS 'SAFETY STAKE' BELOW GROUND MODEL AVAILABLE FROM:
Tree Stake Solutions
ATTN: Jeff Tuley
(903) 676-6143
jeff@treestakesolutions.com
www.treestakesolutions.com

OR APPROVED EQUAL. TREES SHALL BE STAKED BELOW GROUND WHERE NECESSARY; ABOVE GROUND STAKING IS EXPRESSLY PROHIBITED.

K. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN A COPY OF THE MANUFACTURER'S SPECIFICATIONS PRIOR TO INSTALLATION OF TREE STAKES. CONTRACTOR SHALL ADHERE TO MANUFACTURER'S INSTALLATION GUIDELINES, SPECIFICATIONS, AND OTHER REQUIREMENTS FOR TREE STAKE INSTALLATION.



02 SHRUB / GROUNDCOVER DETAIL
NOT TO SCALE

BELLE FIRMA

4245 North Central Expy
Suite 501
Dallas, Texas 75205
214.865.7192 office

TIG

BUILD TO SUIT For

NIAGARA CONSERVATION ON OLD GERAULT

FLOWER MOUND, TEXAS

MEINHARDT & ASSOCIATES ARCHITECTS, P.L.L.C
14901 DALLAS PARKWAY
SUITE 636
DALLAS TEXAS 75254
972 980-8980

REGISTERED LANDSCAPE ARCHITECT
MARI ANN HAINES
2245
STATE OF TEXAS
09.30.20

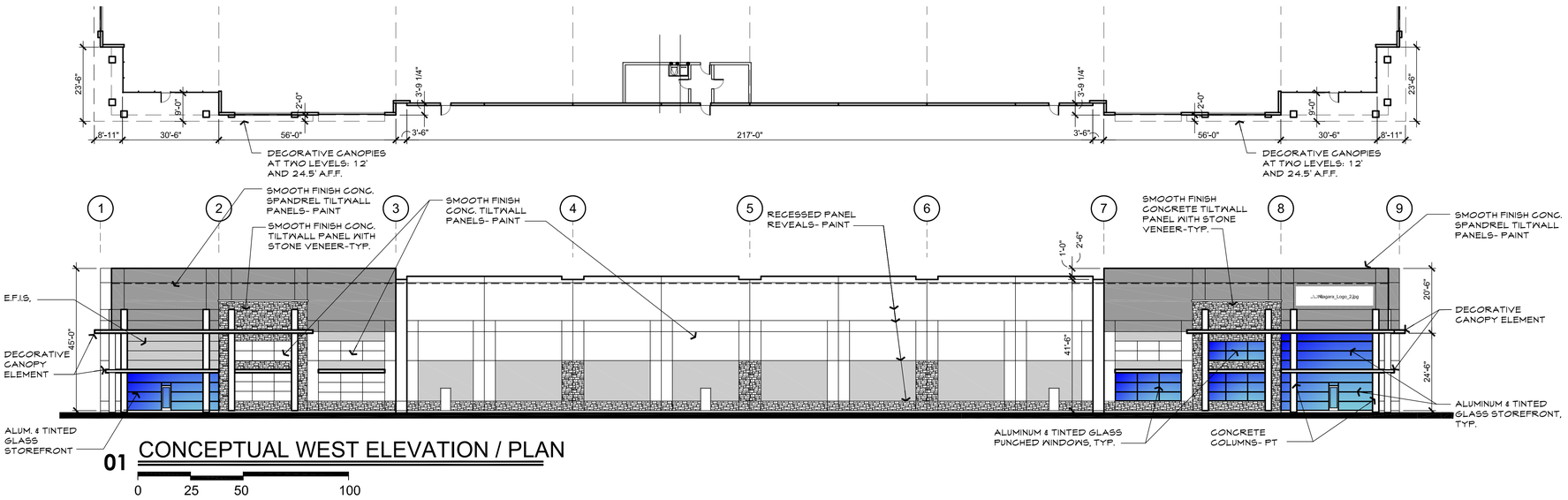
DATE: 08.03.2020

JOB # 20-204

LANDSCAPE SPECIFICATIONS AND DETAILS

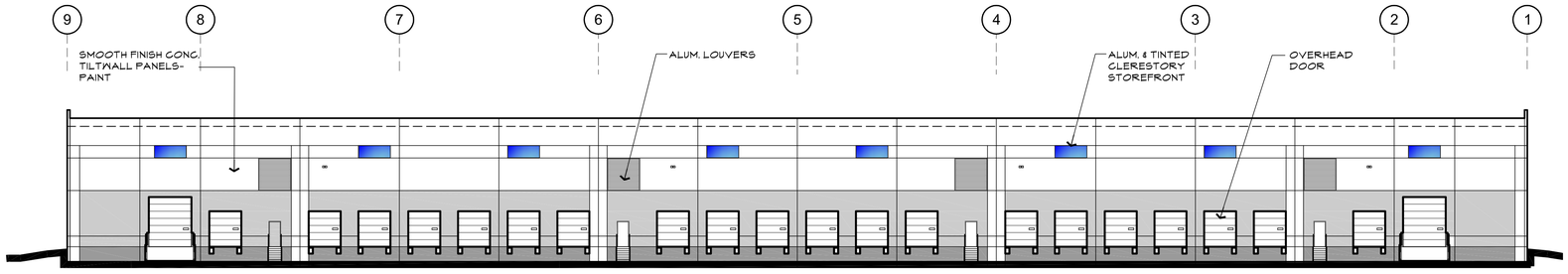
SHEET:

L2.03



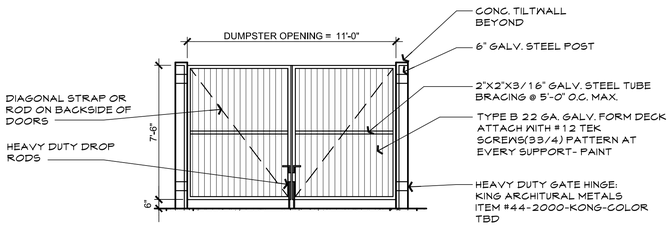
01 CONCEPTUAL WEST ELEVATION / PLAN

0 25 50 100



02 CONCEPTUAL EAST ELEVATION / PLAN

0 25 50 100



03 DUMPSTER ELEVATION

0 5 10 20

COLOR SELECTION KEY

- STONE
- FIELD COLOR
- MEDIUM ACCENT COLOR
- DARK ACCENT COLOR
- STEEL METAL COLOR

MATERIAL USE TABLE

	MATERIAL	NORTH ELEV.	SOUTH ELEV.	EAST ELEV.	WEST ELEV.
1.	TOTAL FACADE S.F.	12,957 S.F.	12,957 S.F.	15,085 S.F.	18,112 S.F.
2.	FACADE (EXCLUSIVE OF DOOR AND WINDOWS)	12,623 S.F.	12,205 S.F.	12,699 S.F.	16,517 S.F.
3.	DOORS AND WINDOWS S.F.	334 S.F.	752 S.F.	2,386 S.F.	1,595 S.F.
4.	PRIMARY MASONRY TOTALS- (MIN. 80%)	12,362 S.F. and 98%	12,127 S.F. and 99.5%	12,699 S.F. and 100%	15,922 S.F. and 96%
	*TILT WALL S.F.	11,842S.F. and 94%	10,576 S.F. and 87%	12,699 S.F. and 100%	14,043 S.F. and 85%
	*TEXTURED STONE S.F.	520 S.F. and 4%	1,551 S.F. and 12.5%		1,879 S.F. and 11%
5.	SECONDARY TOTALS - (MAX. 20%)	261 S.F. and 2%	78 S.F. AND .5%		595 S.F. and 4%
	*METAL ACCENT S.F.	94 S.F. and 1%	78 S.F. and .5%		250 S.F. and 2%
	*EIFS (STUCCO)	167 S.F. and 1%			345 S.F. and 2%

NOTE:
ANY EXTERNAL ELECTRICAL PANELS WILL BE PAINTED/TEXTURED TO MATCH THE MATERIAL AND COLOR OF THE BUILDING.

..\..\TIG_logo3.png

BUILD TO SUIT For

NIAGARA CONSERVATION ON OLD GERAULT

FLOWER MOUND, TEXAS

MEINHARDT & ASSOCIATES ARCHITECTS, P.L.L.C
14643 DALLAS PARKWAY
SUITE 936
DALLAS TEXAS 75254
972 9904980

NOT FOR REGULATORY APPROVAL, PERMITTING, OR CONSTRUCTION

DATE: 11.03.2020
JOB # 20-204
EXTERIOR ELEVATIONS
SHEET:

A6.00

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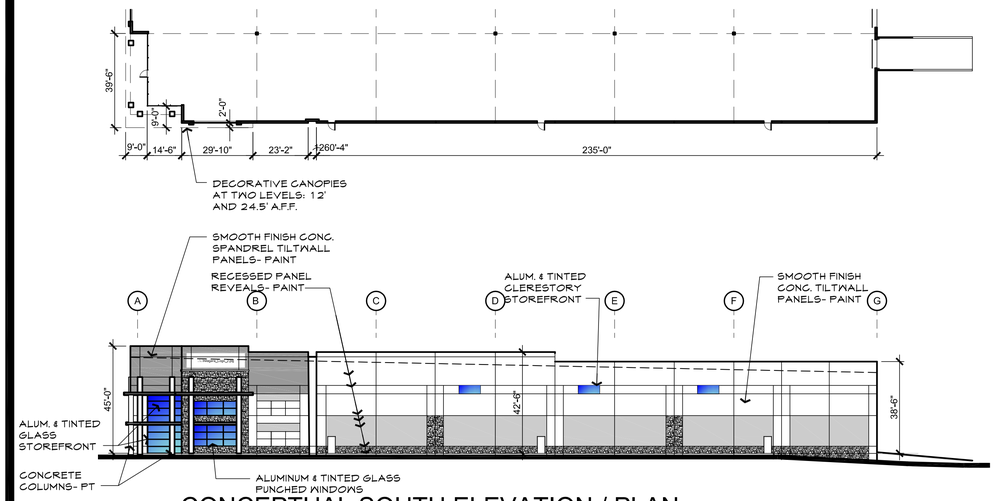
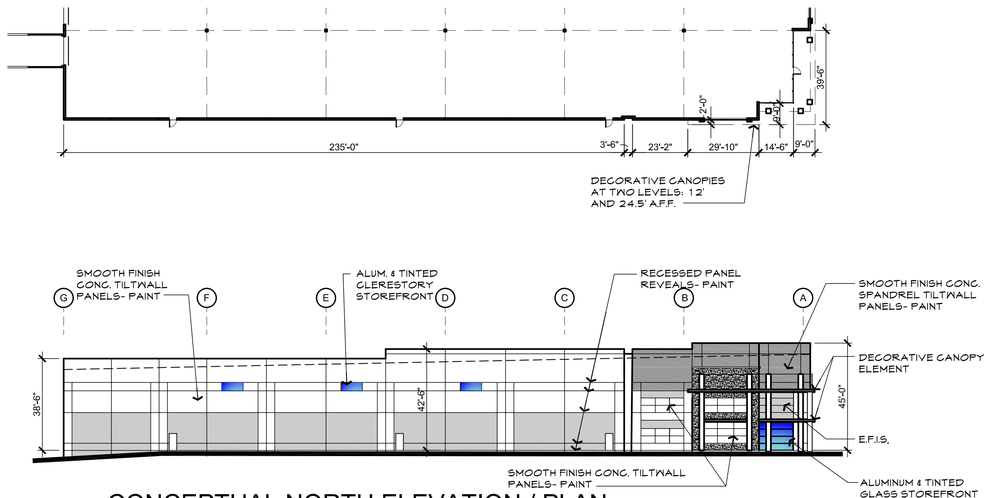


01 CONCEPTUAL SOUTH ELEVATION / PLAN

0 25 50 100



03 CONCEPTUAL NORTH ELEVATION / PLAN

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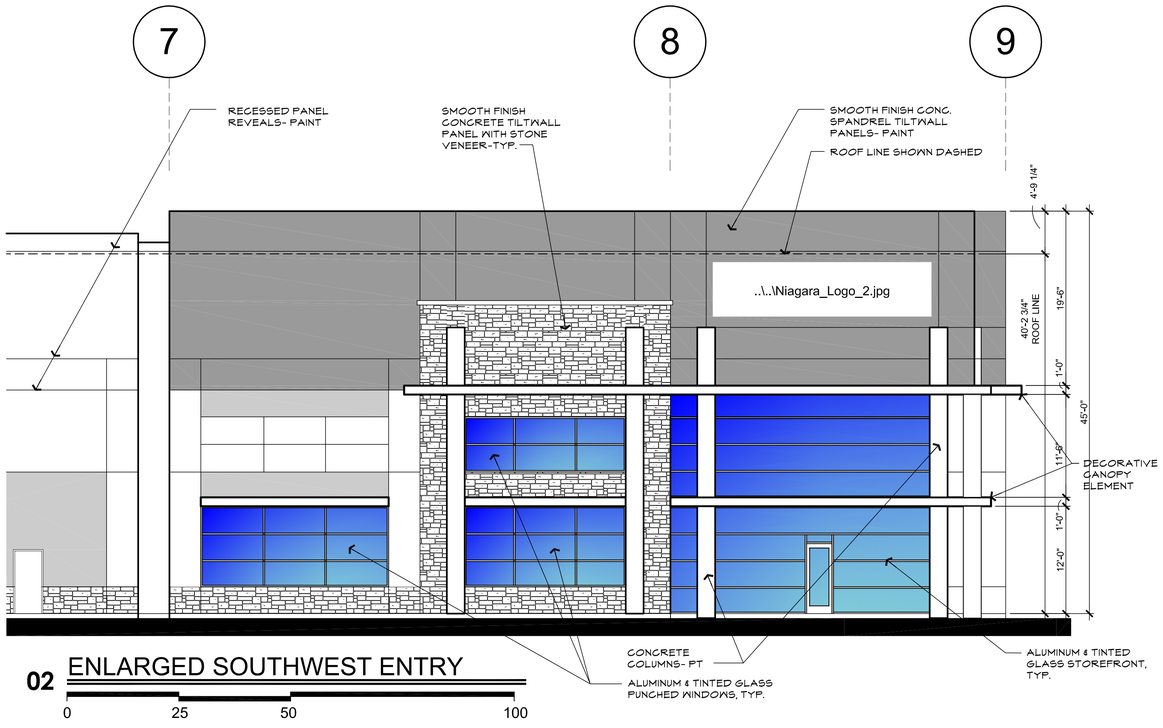

02 ENLARGED SOUTHWEST ENTRY

0 25 50 100

COLOR SELECTION KEY

- STONE
- FIELD COLOR
- MEDIUM ACCENT COLOR
- DARK ACCENT COLOR
- STEEL METAL COLOR

MATERIAL USE TABLE

	MATERIAL	NORTH ELEV.	SOUTH ELEV.	EAST ELEV.	WEST ELEV.
1.	TOTAL FACADE S.F.	12,957 S.F.	12,957 S.F.	15,085 S.F.	18,112 S.F.
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5.	SECONDARY TOTALS - (MAX. 20%)	261 S.F. and 2%	78 S.F. AND .5%		595 S.F. and 4%
	*METAL ACCENT S.F.	94 S.F. and 1%	78 S.F. and .5%		250 S.F. and 2%
	*EIFS (STUCCO)	167 S.F. and 1%			345 S.F. and 2%

NOTE:
ANY EXTERNAL ELECTRICAL PANELS WILL BE PAINTED/TEXTURED TO MATCH THE MATERIAL AND COLOR OF THE BUILDING.

..\..\TIG_logo3.png

BUILD TO SUIT For

NIAGARA CONSERVATION ON OLD GERAULT

FLOWER MOUND, TEXAS

MEINHARDT & ASSOCIATES ARCHITECTS, P.L.L.C
14643 DALLAS PARKWAY
SUITE 636
DALLAS TEXAS 75254
972 980-6880

NOT FOR REGULATORY APPROVAL, PERMITTING, OR CONSTRUCTION

DATE: 11.03.2020

JOB # 20-204

EXTERIOR ELEVATIONS

SHEET:

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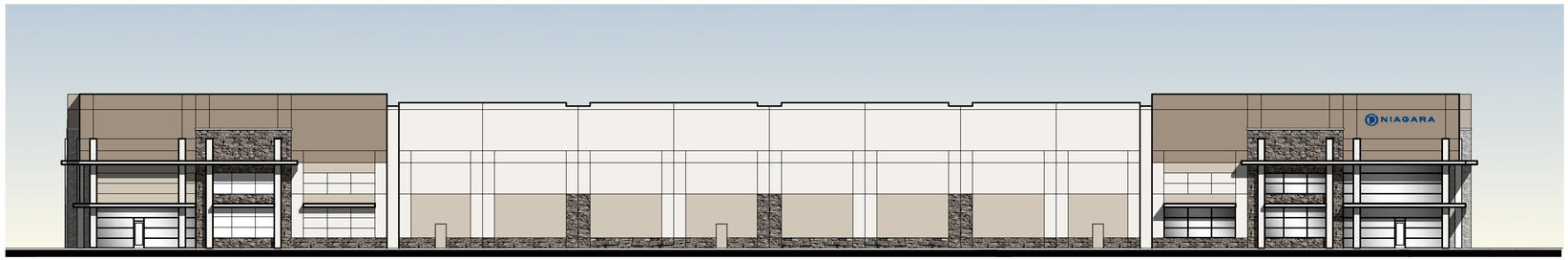
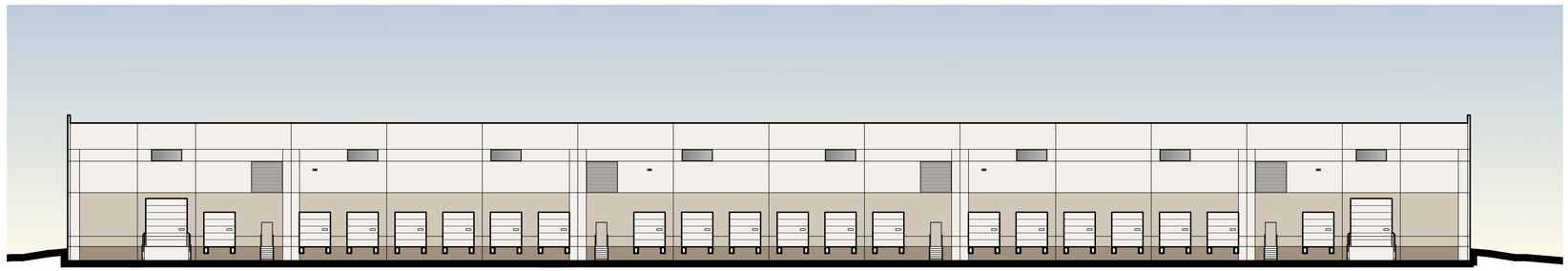


01 WEST ELEVATION



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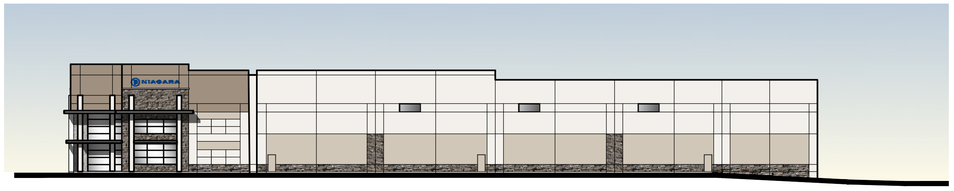
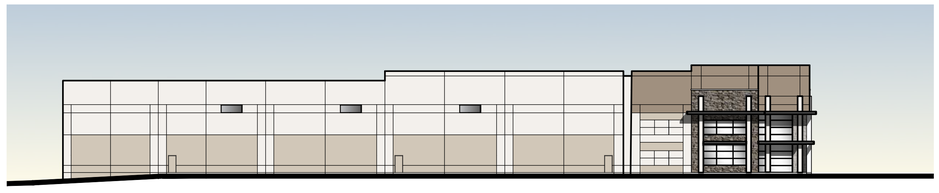


03 SOUTH ELEVATION



04 NORTH ELEVATION

COLOR SELECTION KEY

CORONADO STONE
ARTISAN LEDGE - FALMOUTH

SHERWIN WILLIAMS
7036 ACCESSIBLE BEIGE
FIELD COLOR

SHERWIN WILLIAMS
7037 BALANCED BEIGE

SHERWIN WILLIAMS
9174 MOTH WING

05 ENLARGED SOUTHWEST ENTRY

TIG

BUILD TO SUIT For

NIAGARA CONSERVATION ON OLD GERAULT

FLOWER MOUND, TEXAS

MEINHARDT & ASSOCIATES
ARCHITECTS, P.L.L.C
14643 DALLAS PARKWAY
SUITE 636
DALLAS TEXAS 75254
972 960-8565

DATE: 09.04.2020
JOB # 20-204
P.O.D. ELEVATIONS
SHEET:

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From: John Walsh
To: Lexin Murphy
Cc: JP Walton; Tom Smolik; Alex Flores; "Keith E. Marlowe"; "Kyle Cutler"
Subject: Request to table item ZPD ZPD20-0005 and all associated items until February 1, 2021
Date: Tuesday, December 29, 2020 3:27:25 PM
Attachments: image002.jpg

Lexin,

Per our conversation earlier today, please accept this request by TIG Real Estate Services, Inc., on behalf of Niagara Conservation to table the matters related to ZPD 20-0005 and to be considered at the next scheduled Town Council meeting of February 1, 2021. As we discussed, the entire Niagara team is working diligently to address the matters raised at the December Town Council meeting in which this item was before it. We are working on several modifications to the design and layout of the proposed site to appropriately address concerns expressed by some council members and to attempt to preserve additional legacy trees. This effort requires extensive work by our A & E team that cannot be completed quickly enough for your staff to have an adequate time to review and comment on these modifications prior to the Town Council meeting scheduled for January 4, 2021. In addition, we are requesting that the item related to an exception for leaving the existing overhead lines in place in lieu of providing an underground electrical system be withdrawn. It is our intent to comply with the ordinance in relation to that item.

Thank you for your input and consideration of this request.

John Walsh

John M. Walsh III , CRE
President and CEO

TIG Real Estate Services, Inc.
4350 Beltway Dr, Addison, TX 75001
214 546 5328 (C) | 214 546 5328 (D) jwalsh@tigusa.com | **www.tigusa.com**

Trusted Partner in Commercial Real Estate for 25 Years

ATTENTION - CONFIDENTIAL MATERIAL:
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TOWN COUNCIL AGENDA ITEM NO. 13

REGULAR ITEM

DATE: January 4, 2021

FROM: James Hoefert, Environmental Review Analyst

ITEM: **Public Hearing to consider an application for a tree removal permit for twenty-five (25) specimen trees on property proposed for development as Niagara Conservation. The property is generally located north of Enterprise Road and east of Old Gerault Road. (The Environmental Conservation Commission recommended approval by a vote of 4-3-0 at its November 4, 2020, meeting. The Town Council moved to postpone this item by a vote of 4 to 1 at its December 7, 2020, meeting.)**

BACKGROUND INFORMATION: On December 29, 2020, the applicant requested to postpone future consideration of their items until the February 1, 2021, Town Council meeting, so as to provide them with additional time to address concerns identified during the previous meetings. The formal request is provided as an attachment in item 12 (ZPD20-0005).

The Niagara Conservation development is generally located north of Enterprise Road and east of Old Gerault Road. The site is approximately 7.594 acres in size. The site is currently zoned for Agricultural (A) uses and master planned for Campus Industrial within the Lakeside Business District. The applicant is requesting to rezone the site to Planned Development District No.179 (PD-179) with Campus Industrial uses. According to the tree survey for the project, the site contains thirty-two (32) specimen trees. The applicant is requesting to remove twenty-five (25) specimen trees. The specimen trees proposed for removal are all in good to poor condition and are located within the proposed buildable area.

The following is a list of the twenty-five (25) specimen trees being requested for removal:

Tree #36 – 19” cedar elm;
Tree #129 – 20” cedar elm;
Tree #133 – 25” cedar elm;
Tree #134 – 19” cedar elm;
Tree #147 – 20” cedar elm;
Tree #153 – 19” cedar elm;
Tree #155 – 19” cedar elm;
Tree #165 – 24” cedar elm;
Tree #189 – 28” post oak;
Tree #234 – 30” post oak;
Tree #250 – 28” post oak (poor condition);
Tree #274 – 19” cedar elm (fair condition);
Tree #285 – 31” post oak;
Tree #313 – 32” post oak;
Tree #327 – 24” post oak;
Tree #328 – 22” post oak;
Tree #329 – 25” post oak;
Tree #330 – 33” post oak;
Tree #337 – 26” post oak;
Tree #393 – 33” post oak (fair condition);
Tree #398 – 27” post oak;
Tree #407 – 31” post oak;
Tree #408 – 30” post oak;
Tree #409 – 23” post oak; and
Tree #417 – 22” cedar elm (poor condition)

The Town’s tree ordinance requires that specimen trees removed from the site be replaced at a rate of two times their caliper inches. Based on their sizes, 1,260” of replacement trees, equaling 420 three-inch caliper trees, will be required for the twenty-five (25) specimen trees being requested for removal on this site. In addition, protected trees removed from the buildable area will also require replacement at a tree-for-tree rate. The caliper-inch cash value fee for the removed trees may be paid instead of planting mitigation trees. The developer is proposing to preserve existing protected and specimen trees on the site, so there will be credits available for the preservation of those trees.

BOARD REVIEW/CITIZEN FEEDBACK: This application was considered by the Environmental Conservation Commission (ECC) at its November 4, 2020, meeting. The ECC recommended approval of the requested permit to remove the specimen trees. A link to the ECC meetings can be found at: **https://tx-flowermound.civicplus.com/index.aspx?NID=969**

As of December 7, 2020, staff has not received feedback related to this item.

ALTERNATIVES/OPTIONS: The Town Council may approve or deny the requested tree removal permit, or may choose to approve the permit with conditions or changes.

FISCAL IMPACT: N/A

LEGAL REVIEW: N/A

ATTACHMENTS:

1. Letter of Intent
2. Permit Application
3. Specimen Tree Photographs
4. Tree Survey

DRAFT MOTION: Move to approve as presented in the agenda caption.

Attachment 1

BELLE FIRMA

Beautiful Landscapes.
Signature Services.

bellefirma.com

October 15, 2020

Mr. James Hoefert
Environmental Review Analyst
Town of Flower Mound
2121 Cross Timbers Road
Flower Mound, TX 75028

Re: **Letter of Intent – Specimen Tree Removal for Niagra**
300 Old Gerault Road, Flower Mound, Texas

Dear Mr. Hoefert:

Niagra has proposed development for a 127,810 square foot building on 7.53 acres along Gerault Road. This is a challenging site to develop, and as we are requesting to remove several significant and protected trees. We have worked closely with the civil engineer, architect, and developer to save as many trees on site as possible.

The intent of this letter is to summarize the total amount of Specimen Trees located at 300 Old Gerault Road and to individually identify those trees being proposed for removal along with an explanation why removal is necessary and comments on tree health if applicable. All tree information listed below references the Tree Survey Field Data, tree locations, and proposed site development as reflected on sheet L1.00, "Specimen Tree Plan" dated September 30, 2020. Also attached to this letter are labeled photos of the existing specimen trees listed below.

The site contains a total of thirty-two (32) Specimen Trees. Twenty-five (25) of these trees are being proposed for removal, individually identified with reason for removal as follows:

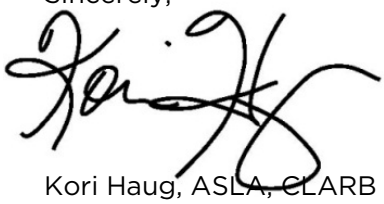
# 36	19"	Cedar Elm to be removed for site grading.
# 129	20.5"	Cedar Elm to be removed for site grading.
# 133	25.5"	Cedar Elm to be removed for drive aisle.
# 134	19.5"	Cedar Elm to be removed for drive aisle.
# 147	20"	Cedar Elm within building footprint.
# 153	19"	Cedar Elm to be removed for drive aisle.
# 155	19.5"	Cedar Elm to be removed for drive aisle.
# 165	24"	Cedar Elm to be removed for drive aisle.
# 189	28"	Post Oak to be removed for site grading
# 234	30"	Post Oak to be removed for Old Gerault Road curb.
# 250	28"	Post Oak in poor condition to be removed for Old Gerault Road curb.
# 274	19.5"	Cedar Elm to be removed for drive aisle.
# 285	31"	Post Oak to be removed for drive aisle.
# 313	32.2"	Post Oak to be removed for drive aisle.
# 327	24.5"	Post Oak within building footprint.
# 328	22.5"	Post Oak within building footprint.
# 329	25.5"	Post Oak within building footprint.
# 330	33.5"	Post Oak within building footprint.
# 337	26"	Post Oak within building footprint.
# 393	33"	Post Oak within building footprint.

# 398	27”	Post Oak within building footprint.
# 407	31”	Post Oak within building footprint.
# 408	30.5	Post Oak within building footprint.
# 409	23”	Post Oak within building footprint.
# 417	22”	Cedar Elm in poor condition within building footprint.

In addition to the Specimen Trees referenced above, there are one hundred and sixty-four (164) Protected Trees, with one hundred and fifty-four (154) Protected Trees proposed for removal. All of these trees, with the exception of two (2), are located within “Buildable Area” or “Dedicated R.O.W. Buildable Area” and all of the Protected Trees are indicated to be in good health.

Thank you for your time and consideration with this matter and please contact me if you have any questions.

Sincerely,



Kori Haug, ASLA, CLARB
President
Belle Firma, Inc.

DocuSign Envelope ID: D149CD34-60D7-4983-A7AB-4715A2E84B2D

Town of Flower Mound Environmental Services
Mailing Address: 2121 Cross Timbers Road, Flower Mound, TX 75028
Telephone: 972-874-6340 Website: www.flower-mound.com

TREE REMOVAL PERMIT

(Effective for Developments submitted 10/6/08 - present)

Check one: ___**Protected Tree** __x__**Specimen Tree** ___**Historic Tree**

This application is required to be submitted 30 days prior to the next available ECC hearing.

1. Applicant- Note: Must be an ISA certified arborist, certified forester, or a registered landscape architect.

Name:
Kori Haug, ASLA, CLARB

Address:
4245 N. Central Expressway, Suite 501
Dallas, Texas 75205

Phone:
(214) 865-7192

Applicant's Legal Interest in the Property:
Landscape Architect

2. Property Owner(s)

Name(s): Kyle Cutler
Address: 1200 Lakeside Pkwy #450 Flower Mound, Texas 75028

3. Location and Legal Description of Property:
300 Old Gerault Road Flower Mound, Texas 75028
See attached for Legal Description

DocuSign Envelope ID: D149CD34-60D7-4983-A7AB-4715A2E84B2D

4. Owner's Authorization of Representation

I, Kyle Cuthe, the owner of the above described real propert, , do hereby authorize _____ to represent my interests and to file an Application for Tree Removal Permit for said real property, pursuant to the terms and provisions of Chapter 94 (Trees), of the Land Development Regulations of the Town of Flower Mound, Texas Code of Ordinances.

Signature of Owner

KATHERINE GELAT
NOTARY PUBLIC
ID# 131965523
State of Texas
Comm. Exp. 04-18-2023

Given Under My Hand and Seal of Office
This the 9 Day of October, 2020

Katherine R Gelat
Notary Public
In and For Dallas County, Texas.

5. Applicants Affidavit- Note: Applicant must be an ISA certified arborist, certified forester, or a registered landscape architect.

Subject to criminal penalties contained in Subpart B, the Land Development Regulations of the Town of Flower Mound, Texas Code of Ordinances, I Kori Haug, do hereby swear or affirm that all of the Information contained herein and submitted herein is, to the best of my knowledge, true, correct and complete and that no false, misleading or incomplete information has been intentionally provided or submitted with this Application for a Tree Removal Permit.

Kori Haug
Signature of Applicant

Landscape Architect License No. 2346
State of Licensure Texas
Or ISA Certified Arborist No. _____
Or Certified Forester No. _____

M L EAKIN
Notary ID #11774724
My Commission Expires
October 25, 2023

Given Under My Hand and Seal of Office
This the 9 Day of October, 2020

M. L. Eakin
Notary Public
In and For Dallas County, Texas

6. Received by Town of Flower Mound on (Date) 10/09/2020 by (initials) JRH .

Niagara Conservation - Specimen trees proposed for removal

Tree #36 – 19” cedar elm

Tree #129 – 20” cedar elm

Tree #133 – 25” cedar elm

Tree #134 – 19” cedar elm

Tree #147 – 20” cedar elm

Tree #153 – 19” cedar elm

Tree #155 – 19” cedar elm

Tree #165 – 24” cedar elm

Tree #189 – 28” post oak

Tree #234 – 30” post oak

Tree #250 – 28” post oak

Tree #274 – 19” cedar elm

Tree #285 – 31” post oak

Tree #313 – 32” post oak

Tree #327 – 24” post oak

Tree #328 – 22” post oak

Tree #329 – 25” post oak

Tree #330 – 33” post oak

Tree #337 – 26” post oak

Tree #393 – 33” post oak

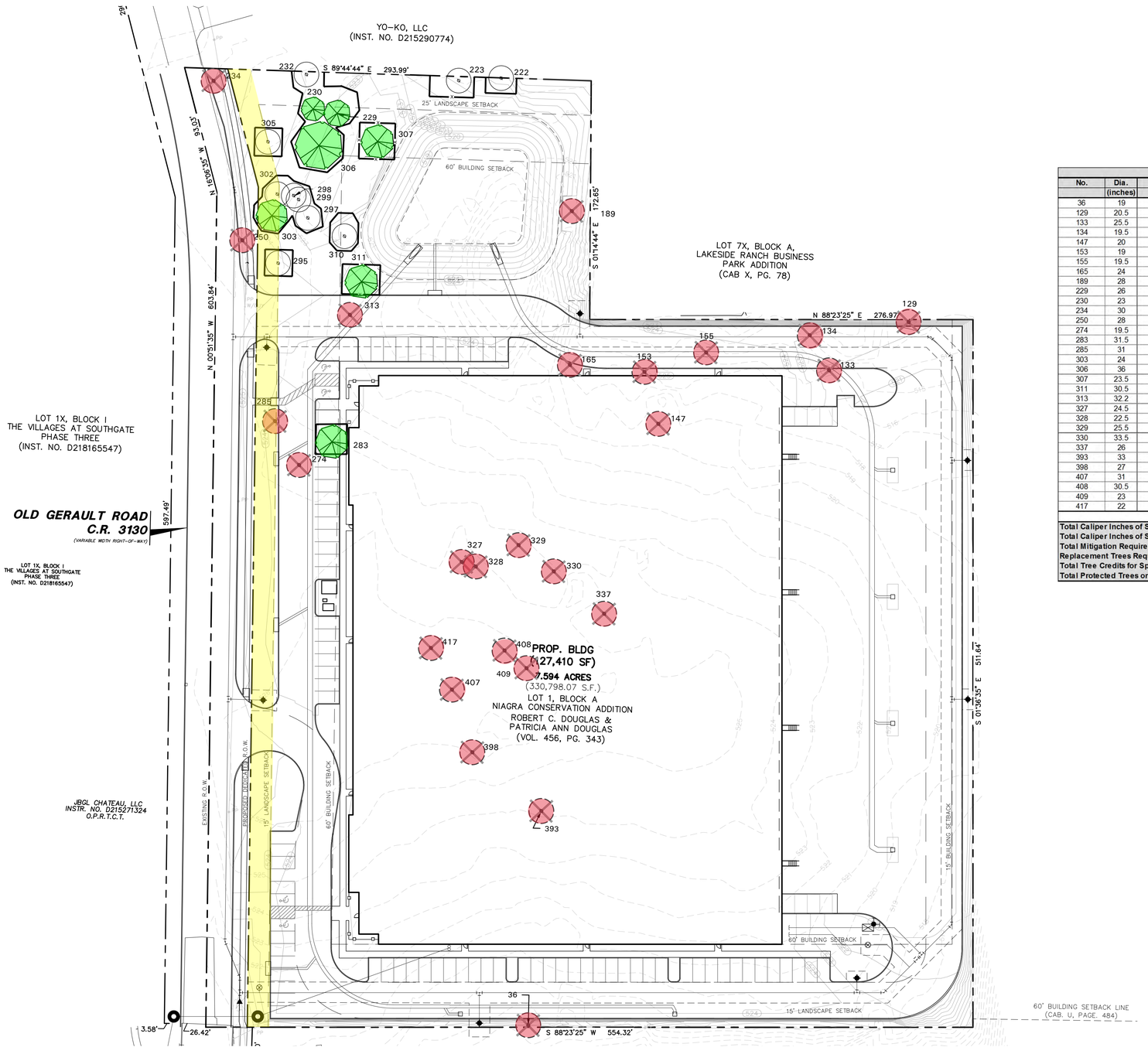
Tree #398 – 27” post oak

Tree #407 – 31” post oak

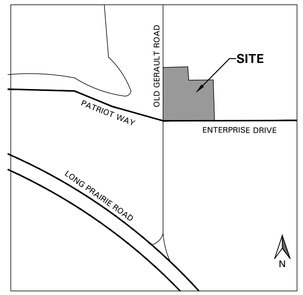
Tree #408 – 30” post oak

Tree #409 – 23” post oak

Tree #417 – 22” cedar elm



VICINITY MAP
NOT TO SCALE



TREE SURVEY FIELD DATA

No.	Dia. (inches)	Species (common name)	Species (botanical name)	Status	Protected	Health	Tree Credits	Remarks
36	19	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED-SPECIMEN	GOOD		
129	20.5	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED-SPECIMEN	GOOD		
133	25.5	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED-SPECIMEN	GOOD		
134	19.5	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED-SPECIMEN	GOOD		
147	20	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED-SPECIMEN	GOOD		
153	19	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED-SPECIMEN	GOOD		
155	19.5	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED-SPECIMEN	GOOD		
165	24	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED-SPECIMEN	GOOD		
189	28	POST OAK	QUERCUS STELLATA	TO BE REMOVED	PROTECTED-SPECIMEN	GOOD		
229	26	CEDAR ELM	ULMUS CRASSIFOLIA	TO REMAIN	PROTECTED-SPECIMEN	GOOD	5	BUILDABLE AREA
230	23	CEDAR ELM	ULMUS CRASSIFOLIA	TO REMAIN	PROTECTED-SPECIMEN	GOOD	4	BUILDABLE AREA
234	30	POST OAK	QUERCUS STELLATA	TO BE REMOVED	PROTECTED-SPECIMEN	GOOD		
250	28	POST OAK	QUERCUS STELLATA	TO BE REMOVED	PROTECTED-SPECIMEN	POOR		
274	19.5	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED-SPECIMEN	FAIR		
283	31.5	POST OAK	QUERCUS STELLATA	TO REMAIN	PROTECTED-SPECIMEN	GOOD	6	BUILDABLE AREA
285	31	POST OAK	QUERCUS STELLATA	TO BE REMOVED	PROTECTED-SPECIMEN	GOOD		
303	24	POST OAK	QUERCUS STELLATA	TO REMAIN	PROTECTED-SPECIMEN	FAIR	1	
306	36	CEDAR ELM	ULMUS CRASSIFOLIA	TO REMAIN	PROTECTED-SPECIMEN	GOOD	6	BUILDABLE AREA
307	23.5	CEDAR ELM	ULMUS CRASSIFOLIA	TO REMAIN	PROTECTED-SPECIMEN	GOOD	4	BUILDABLE AREA
311	30.5	POST OAK	QUERCUS STELLATA	TO REMAIN	PROTECTED-SPECIMEN	GOOD	6	BUILDABLE AREA
313	32.2	POST OAK	QUERCUS STELLATA	TO BE REMOVED	PROTECTED-SPECIMEN	GOOD		
327	24.5	POST OAK	QUERCUS STELLATA	TO BE REMOVED	PROTECTED-SPECIMEN	GOOD		
328	22.5	POST OAK	QUERCUS STELLATA	TO BE REMOVED	PROTECTED-SPECIMEN	GOOD		
329	25.5	POST OAK	QUERCUS STELLATA	TO BE REMOVED	PROTECTED-SPECIMEN	GOOD		
330	33.5	POST OAK	QUERCUS STELLATA	TO BE REMOVED	PROTECTED-SPECIMEN	GOOD		
337	26	POST OAK	QUERCUS STELLATA	TO BE REMOVED	PROTECTED-SPECIMEN	GOOD		
393	33	POST OAK	QUERCUS STELLATA	TO BE REMOVED	PROTECTED-SPECIMEN	FAIR		
398	27	POST OAK	QUERCUS STELLATA	TO BE REMOVED	PROTECTED-SPECIMEN	GOOD		
407	31	POST OAK	QUERCUS STELLATA	TO BE REMOVED	PROTECTED-SPECIMEN	GOOD		
408	30.5	POST OAK	QUERCUS STELLATA	TO BE REMOVED	PROTECTED-SPECIMEN	GOOD		
409	23	POST OAK	QUERCUS STELLATA	TO BE REMOVED	PROTECTED-SPECIMEN	GOOD		
417	22	CEDAR ELM	ULMUS CRASSIFOLIA	TO BE REMOVED	PROTECTED-SPECIMEN	POOR		Measurement taken at 1' ht.

Total Caliper Inches of Specimen Trees on Site to be Removed (Total: 32 Specimen Trees)	828.7
Total Caliper Inches of Specimen Trees to be Removed	634.2
Total Mitigation Required for Specimen Trees Removed	1,268.4
Replacement Trees Required for Specimen Trees to be Removed	422.8
Total Tree Credits for Specimen Trees to Remain	32.0
Total Protected Trees on Site	164.0

EXISTING TREE LEGEND

SPECIMEN TREE TO REMAIN

SPECIMEN TREE TO BE REMOVED

TREE PROTECTION FENCING TO REMAIN

N

SCALE: 1" = 40'-0"
0 20 40 80

BELLE FIRMA

4245 North Central Expy
Suite 501
Dallas, Texas 75205
214.865.7192 office

TIG

BUILD TO SUIT For

NIAGARA CONSERVATION ON OLD GERAULT

FLOWER MOUND, TEXAS

MEINHARDT & ASSOCIATES ARCHITECTS, P.L.L.C
14901 DALLAS PARKWAY
SUITE 630
DALLAS TEXAS 75254
972 960-8860

REGISTERED LANDSCAPE ARCHITECT
CHERI ANN HALL
2246
STATE OF TEXAS
09.30.20

DATE: 08.03.2020

JOB # 20-204

SPECIMEN TREE PLAN

SHEET:

L1.00

TOWN COUNCIL AGENDA ITEM NO. 14

REGULAR ITEM

DATE: January 4, 2021

FROM: JP Walton, Interim Director of Economic Development/Assistant to the Town Manager

ITEM: **Public Hearing to consider approval of an ordinance establishing a Tax Abatement Reinvestment Zone for commercial tax abatement at 300 Old Gerault Road (Niagara Conservation, Inc., aka Deus, LLC). (Niagara Conservation, Inc., aka Deus, LLC). (The Town Council moved to postpone this item by a vote of 4 to 1 at its December 7, 2020, meeting.)**

BACKGROUND INFORMATION: Establishment of a reinvestment zone on the 7.59 acre property will facilitate a proposed Tax Abatement and Chapter 380 Agreement between the Town and Niagara Conservation, Inc. (aka Deus, LLC), in exchange for the company constructing a 127,810 square foot office, warehouse, and distribution facility on this site. The facility will operate as Niagara's headquarters.

Chapter 312 of the Texas Tax Code requires that municipalities wishing to execute a Tax Abatement Agreement designate a Tax Abatement Reinvestment Zone by ordinance after a public hearing. Notice of the subject public hearing appeared in the Denton Record-Chronicle on Saturday, November 28, 2020. Additionally, all other applicable taxing entities (Tarrant County & Lewisville Independent School District) were notified of the intention to establish the reinvestment zone.

Town Council moved to postpone this item by a vote of 4 to 1 at its December 7, 2020 meeting. The applicant has requested that Town Council postpone this item again until February 1, 2021. The applicant is continuing to work on addressing the Council's comments from December 7, 2020 and needs additional time.

BOARD REVIEW/CITIZEN FEEDBACK: N/A

ALTERNATIVES/OPTIONS: N/A

FISCAL IMPACT: N/A

All financial analysis will be provided in conjunction with the Niagara Conservation, Inc. Tax Abatement and Chapter 380 Agreement item.

LEGAL REVIEW: Drew Larkin with Taylor, Olson, Adkins, Sralla, & Elam L.L.P., has reviewed the ordinance as to form and legality.

ATTACHMENTS:

1. Ordinance

DRAFT MOTION: Move to approve as presented in the agenda caption.

TOWN OF FLOWER MOUND, TEXAS

ORDINANCE NO. _____

AN ORDINANCE OF THE TOWN COUNCIL OF THE TOWN OF FLOWER MOUND, TEXAS, DESIGNATING A CERTAIN AREA AS A TAX ABATEMENT REINVESTMENT ZONE FOR COMMERCIAL TAX ABATEMENT, WITHIN THE TOWN OF FLOWER MOUND, TEXAS; ESTABLISHING THE BOUNDARIES THEREOF AND OTHER MATTERS RELATED THERETO; PROVIDING A SEVERABILITY CLAUSE; PROVIDING A REPEALER CLAUSE; AND PROVIDING FOR AN IMMEDIATE EFFECTIVE DATE.

WHEREAS, the Town Council of the Town of Flower Mound, Texas (sometimes hereinafter referred to as the "Town") desires to promote the development or redevelopment of a certain contiguous geographic area within the Town of Flower Mound, Texas, by the creation of a reinvestment zone for commercial tax abatement, as authorized by Chapter 312 of the Texas Tax Code, as amended; and,

WHEREAS, a public hearing before the Town Council of the Town was scheduled and held at 6:00 p.m. on December 7, 2020, such date being at least seven (7) days after the date of publication of the notice of such public hearing, pursuant to Section 312.201(d) of the Texas Tax Code, as amended; and,

WHEREAS, the Town Council held such public hearing after publishing notice of such public hearing, and giving written notice to all taxing units overlapping the territory inside the proposed Tax Abatement Reinvestment Zone; and,

WHEREAS, the Town at such public hearing invited any interested person to appear and speak for or against the creation of the Tax Abatement Reinvestment Zone, the boundaries of the proposed Tax Abatement Reinvestment Zone, whether all or part of the territory should be included in such proposed Tax Abatement Reinvestment Zone, and the concept of tax abatement;

NOW, THEREFORE, BE IT ORDAINED BY THE TOWN COUNCIL OF THE TOWN OF FLOWER MOUND, TEXAS, THAT:

SECTION 1

The findings set forth above are incorporated into the body of this Ordinance as if fully set forth herein.

SECTION 2

The Town, after conducting such public hearing and having heard such evidence and testimony has made the following findings and determinations based upon the testimony presented:

(a) That a public hearing on the adoption of the Tax Abatement Reinvestment Zone has been properly called, held and conducted, and that notice of such hearing has been published at least seven (7) days before the hearing in a newspaper of general circulation within the Town, and mailed to all property taxing units overlapping the territory inside the proposed Tax Abatement Reinvestment Zone at least seven (7) days prior to the public hearing; and

(b) That the boundaries of the Tax Abatement Reinvestment Zone should be the area as described in Exhibit A, which is attached hereto and incorporated herein for all purposes; and

(c) That creation of the Tax Abatement Reinvestment Zone for commercial tax abatement with boundaries as described in Exhibit A will result in benefits to the Town, and to the land included within the Zone, and the improvements sought are feasible and practical; and

(d) That the Tax Abatement Reinvestment Zone as described and/or depicted in Exhibit A meets the criteria for the creation of a tax abatement reinvestment zone as set forth in Section 312.202(a) of the Texas Tax Code, as amended, and in particular Section 312.202(a)(6) of the Texas Tax Code, in that it is "reasonably likely as a result of the designation to contribute to the retention or expansion of primary employment or to attract major investment in the zone that would be a benefit to the property and that would contribute to the economic development of the Town"; and

(e) That the Tax Abatement Reinvestment Zone as described and/or depicted in Exhibit A meets the criteria for the creation of a tax abatement reinvestment zone as set forth in the Town's Tax Abatement Guidelines and Criteria; and

(f) That the Improvements proposed for the Tax Abatement Reinvestment Zone are feasible and practical and would be a benefit to the land and to the Town after the expiration of any tax abatement agreement.

SECTION 3

Pursuant to Section 312.201 of the Texas Tax Code, as amended, the Town of Flower Mound, Texas, hereby creates a Tax Abatement Reinvestment Zone for commercial tax abatement encompassing only the area described in Exhibit A, and such Tax Abatement Reinvestment Zone is hereby designated.

SECTION 4

The Tax Abatement Reinvestment Zone shall take effect immediately upon passage of this Ordinance. The Tax Abatement Reinvestment Zone is effective for five (5) years and may be renewed for periods not to exceed five (5) years. The expiration of the designation of the Tax Abatement Reinvestment Zone does not affect an existing tax abatement agreement.

SECTION 5

It is hereby declared to be the intention of the Town Council that the phrases, clauses, sentences, paragraphs and sections of this Ordinance are severable, and if any phrase, clause, sentence, paragraph or section of this Ordinance shall be declared invalid or unconstitutional by the valid judgment or decree of any court of competent jurisdiction, such invalidity or unconstitutionality shall not affect any of the remaining phrases, clauses, sentences, paragraphs and sections of this Ordinance, since the same would have been enacted by the Town Council without the incorporation of this Ordinance of any such invalid or unconstitutional phrase, clause, sentence, paragraph or section.

SECTION 6

Any provision of any prior ordinance of the Town, whether codified or uncodified, which is in conflict with any provision of this Ordinance, is hereby repealed to the extent of the conflict, but all other provisions of the ordinances of the Town, whether codified or uncodified, which are not in conflict with the provisions of this Ordinance, shall remain in full force and effect.

SECTION 7

This Ordinance shall become effective immediately upon its passage.

DULY PASSED AND APPROVED BY THE TOWN COUNCIL OF THE TOWN OF FLOWER MOUND, TEXAS BY A VOTE OF __TO __, ON THIS THE 4TH DAY OF JANUARY, 2021.

APPROVED:

_____

STEVE DIXON, MAYOR

ATTEST:

_____

THERESA SCOTT, TOWN SECRETARY

Exhibit "A"

LEGAL DESCRIPTION

DESCRIPTION, of a 7.594 acre tract of land situated in the J. Turner Survey, Abstract No. 1251, Denton County, Texas; said tract being all of that certain tract of land described in Warranty Deed to Robert C. Douglas & Patricia Ann Douglas recorded in Volume 456, Page 343 of the Deed Records of Denton County, Texas; said 7.594 acre tract being more particularly described as follows:

BEGINNING, at a 5/8-inch iron rod with "A.R.S." cap set for corner in Old Gerault Road (a variable width right-of-way);, said point being the northwest corner of said Old Gerault Road as dedicated by plat recorded in Cabinet U, Page 484 of the Plat Records of Denton County, Texas;

THENCE, North 00 degrees, 51 minutes, 35 seconds West, along the approximate centerline of said Old Gerault Road, a distance of 603.83 feet to a 5/8-inch iron rod with "A.R.S." cap set for corner;

THENCE, North 16 degrees, 06 minutes, 35 seconds West, continuing along the said approximate centerline of said Old Gerault Road a distance of 93.03 feet to a 5/8-inch iron rod with "A.R.S." cap set for corner; said point being the southwest corner of that certain tract of land described in Warranty Deed to YO-KO LLC recorded in Instrument No. D215290774 of the Official Public Records of Denton County, Texas;

THENCE, South 89 degrees, 44 minutes, 44 seconds East, departing the said centerline of Old Gerault Road and along the south line of said YO-KO LLC tract, a distance of 293.99 feet to a 1/2-inch iron rod found for corner; said point being the southeast corner of said YO-KO LLC tract and being in the west line of Lot 7X, Block A of the lakeside Ranch Business Park Addition, an addition to the Town of Flower Mound, Texas recorded in Cabinet X, Page 78 of said Plat Records;

THENCE, South 01 degrees, 14 minutes, 44 seconds East, along the said west line of Lot 7X, a distance of 172.65 feet to a 5/8-inch iron rod found for corner at the southwest corner of said Lot 7X;

THENCE, North 88 degrees, 23 minutes, 25 seconds East, along the south line of said Lot 7X, a distance of 276.97 feet to a 1-inch pipe found for corner at the northernmost northwesterly corner of Lot 1R, Block A of Lakeside Trade Center, an addition to the Town of Flower Mound, Texas recorded in Cabinet V, Page 843 of said Plat Records;

THENCE, South 01 degrees, 36 minutes, 35 seconds East, departing the said south line of Lot 7X and along the west line of said Lot 1R, a distance of 511.64 feet to a 5/8-inch iron rod with "A.R.S." cap set for corner; said point being an ell corner of said Lot 1R;

THENCE, South 88 degrees, 23 minutes, 25 seconds West, a north line of said Lot 1R, passing at a distance of 520.67 feet, the westernmost northwest corner of said Lot 1R, continuing for a total distance of 554.32 feet to the POINT OF BEGINNING;

CONTAINING: 330,798 square feet or 7.594 acres of land, more or less.

TOWN COUNCIL AGENDA ITEM NO. 15

REGULAR ITEM

DATE: January 4, 2021

FROM: JP Walton, Interim Economic Development Director/Assistant to the Town Manager

ITEM: **Public Hearing to consider approval of a Chapter 380 and Tax Abatement Agreement with Niagara Conservation, Inc. (aka Deus, LLC), for the economic development of Flower Mound, and authorization for the Mayor to execute same on behalf of Town. (The Town Council moved to postpone this item by a vote of 4 to 1 at its December 7, 2020, meeting.)**

BACKGROUND INFORMATION: The subject request relates to the proposed Tax Abatement and Chapter 380 Agreement between the Town and Niagara Conservation, Inc. (aka Deus, LLC). Niagara Conservation proposes to make an approximately $12+ million capital investment in the land and construction of a 127,810 square foot office, warehouse, and distribution facility, as well as related site improvements on 7.59 acres at 300 Old Gerault Road. The site is generally located at the northeast corner of Old Gerault and Enterprise Roads, on an unimproved portion of Old Gerault Road in the Lakeside Business District. The facility will be owned and occupied by Niagara, serving as the company's headquarters, with staff relocating from Niagara's current leased space in Suite 450 at 1200 Lakeside Parkway and their current offices in New Jersey. Niagara has been a Flower Mound resident since 2014 but has been in existence since 1977. The facility is expected to employ approximately 70+ individuals.

Niagara Conservation is one of the leading manufacturers and wholesalers of water and energy conservation products in the world. The company offers toilet tanks and bowls under the Niagara flapperless brand, providing also showerheads, low-flow aerators, compact fluorescent lamps, water-, energy- and gas-efficient conservation kits and various weatherization products. The company has explored various real estate options in the area, with the desire to remain in Flower Mound, but found limited options. The identification of this site was ideal, as it allows the company to construct a facility according to their specific needs, and is near their current operations, which will aid in employee retention and limit the disruption due to the relocation.

The subject property at 300 Old Gerault Road has attracted several interested parties over the years, including a truck rental facility, construction storage yard, mini-storage, speculative industrial, co-working and daycare, religious institutions, and now Niagara Conservation. On the surface, the site is of interest to many users, but contains significant development obstacles, which has caused most to walk away. The site is an irregular shape, has topography issues, requires construction of a large retaining wall along the rear of the site, possesses uncertainty surrounding the presence and potential burial of the overhead powerlines and poles, contains a number of trees requiring mitigation, requires construction of Old Gerault with its development, includes an existing home to be demolished that possesses asbestos, and the land requires environmental remediation due to oil contamination.

Niagara Conservation has requested incentive assistance in order to offset the extraordinary costs associated with developing the subject site, which are estimated at well over $750,000.

On August 17, 2020, and September 9, 2020, Town Council met in Closed Session to discuss Niagara's incentive request. Most recently, on November 9, 2020, Planning & Zoning Commission recommended approval of the rezoning of the property from (A) Agricultural Zoning to (PD #179) Planned Development with Campus Industrial uses.

The proposed Tax Abatement and Chapter 380 Agreement provides for an 8-year, 75% real property tax abatement (total estimated savings $193,000), a grant equal to 75% of impact fees ($62,250 in savings), and a building permit fee waiver ($87,000). A 10-year cost-benefit analysis indicates a total cost to the Town of

$342,500, providing a minimum net benefit of over $450,000. The payback period to the Town is approximately six years; however, the applicant and staff's estimates related to estimated values are extremely conservative, which will likely result in a reduced payback period. A secondary cost-benefit analysis was also conducted, which considers additional factors, such as anticipated purchases at the site, hotel stays for visitors to the site, spin-off jobs as a result of the additional business activity, additional sales tax generated as a result employee purchases, and the cost of needed government services. When factoring in these additional estimated revenues and expenses for the Town, the secondary cost-benefit analysis indicates a payback period of 1 year, resulting in a 10-year net benefit to the Town of $870,000.

In accordance with Section 312.207 of the Texas Tax Code, on November 28, 2020, notice of the subject public hearing was posted on the Town's bulletin board and on the Town's website.

Town Council moved to postpone this item by a vote of 4 to 1 at its December 7, 2020, meeting. The applicant has requested that Town Council postpone this item again until February 1, 2021. The applicant is continuing to work on addressing the Council's comments from December 7, 2020, and needs additional time.

BOARD REVIEW/CITIZEN FEEDBACK: N/A

ALTERNATIVES/OPTIONS: N/A

FISCAL IMPACT: One time grant equal to 75% of assessed impact fees.

Proposed Expenditure/(Revenue):	Account Number:
$62,250	100-600-57000-5320

Finance Review by: Debra Wallace, Interim Town Manager/CFO DW

LEGAL REVIEW: Drew Larkin of Taylor, Olson, Adkins, Sralla, & Elam L.L.P., has reviewed the Tax Abatement and Chapter 380 Incentive Agreement as to form and legality.

ATTACHMENTS:

1. Tax Abatement & Chapter 380 Agreement
2. Cost-Benefit Analysis and Summary

DRAFT MOTION: Move to approve as presented in the agenda caption.

TAX ABATEMENT AND CHAPTER 380 AGREEMENT
BETWEEN
THE TOWN OF FLOWER MOUND &
DEUS, LLC
(NIAGARA CONSERVATION)

This Tax Abatement and Chapter 380 Agreement ("**Agreement**") is made and entered into by and between the Town of Flower Mound, Texas ("**Town**") and Deus, LLC., a Texas limited liability company ("**Owner**"). Town and Owner may sometimes hereafter be referred to individually as a "**Party**" or collectively as the "**Parties**."

WITNESSETH:

WHEREAS, on or about December 17, 2007, the Town adopted Resolution No. 37-07 electing to become eligible to participate in tax abatement agreements, in accordance with Section 312.002(a) of the Texas Tax Code; and

WHEREAS, the Town also adopted and/or reaffirmed tax abatement guidelines and criteria, in accordance with Section 312.002 of the Texas Tax Code (hereinafter referred to as the "**Town's Tax Abatement Guidelines and Criteria**"); and

WHEREAS, the Town's Tax Abatement Guidelines and Criteria constitute appropriate guidelines and criteria governing tax abatement agreements to be entered into by the Town, as contemplated by Chapter 312 of the Texas Tax Code, as amended; and

WHEREAS, on or about January 4, 2021, the Town Council of the Town of Flower Mound, Texas, adopted Ordinance No. ____ establishing a Tax Abatement Reinvestment Zone ("**Zone**") in the Town of Flower Mound, Texas, for commercial-office tax abatement, as authorized by the Property Redevelopment and Tax Abatement Act, Chapter 312 of the Texas Tax Code; and

WHEREAS, the Owner owns the real property located within the Zone and seeks to receive incentives from the Town, including tax abatement; and

WHEREAS, this abatement of real property taxes will maintain and enhance the economic and employment base of the Town, thereby benefiting the Town, in accordance with the Tax Abatement Guidelines and Criteria and the Property Redevelopment and Tax Abatement Act; and

WHEREAS, the Town Council of the Town of Flower Mound, Texas, finds that the contemplated use of the real property, and the Improvements to the Real Property as set forth in this Agreement, and the other terms hereof are consistent with encouraging continued reinvestment within the Zone in the Town of Flower Mound, Texas, in accordance with the purposes for its creation, and are in compliance with the Town's Tax Abatement Guidelines and Criteria, and Chapter 312 of the Texas Tax Code; and

WHEREAS, the Owner acknowledges and agrees that the tax abatements granted by this Agreement are contingent upon its compliance with this Agreement in accordance with the terms and conditions set forth herein; and

WHEREAS, the Town also desires to provide incentives to the Owner pursuant to Chapter 380 of the Texas Local Government Code to locate an office-warehouse building in the Town; and

WHEREAS, the Town has concluded and hereby finds that this Agreement promotes economic development in the Town of Flower Mound, Texas, and, as such, meets the requirements of Article III, Section 52-a of the Texas Constitution, by assisting in the development and diversification of the economy of the State and Town, by eliminating unemployment or underemployment in the State and Town, and enhancing business and commercial activity within the State and Town; and

WHEREAS, the Town finds that it is in the public interest to provide the tax abatement and 380 agreement.

NOW THEREFORE, for and in consideration of the agreements contained herein, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties agree as follows:

ARTICLE 1
DEFINITIONS

The following words shall have the following meanings when used in this Agreement:

The terms “Agreement”, “Town”, “Owner, “Parties”, “Party”, “Zone”, and “Town’s Tax Abatement Guidelines and Criteria” shall have the meanings provided above.

“Affiliate” means any person or entity which directly or indirectly controls, is controlled by or is under common control with Owner, during the term of such control. A person or entity will be deemed to be "controlled" by any other person or entity if such other person or entity (a) possesses, directly or indirectly, power to direct or cause the direction of the management of such person or entity whether by contract or otherwise; (b) has direct or indirect ownership of at least fifty percent (50%) of the voting power of all outstanding shares entitled to vote at a general election of directors of the person or entity; or (c) has direct or indirect ownership of at least fifty percent (50%) of the equity interests in the entity. Notwithstanding the foregoing, the term “Affiliate” includes Niagara Conservation Corp. (“Niagara”) and any Affiliate of Niagara.

“Base Year Tax Value” means the assessed value of the Real Property (land only) according to the Tarrant Appraisal District for Tax Year 2020.

“Capital Investment” means the actual costs attributable to the construction of the Improvements and related infrastructure, including the actual construction costs of all buildings, site preparation, structures, infrastructure, utilities, landscaping and on-site improvements, including labor and materials, engineering costs, surveying costs, fees of consultants, permit and

inspection fees. It does not include insurance costs, marketing costs, or any interest paid to finance the cost of Capital Investment.

"Certificate of Occupancy" means the document issued by the Town to Owner certifying the Improvements' compliance with applicable building codes and other laws, and indicating it to be in a condition suitable for occupation.

"Effective Date" shall mean the last date this Agreement is executed by the Parties.

"Expiration Date" shall mean the 10th anniversary date of the date Owner receives a Certificate of Occupancy for the Improvements, unless sooner terminated as provided herein.

"Event of Bankruptcy or Insolvency" means the dissolution or termination of a Party's existence as a going business, appointment of receiver for any part of such Party's property and such appointment is not terminated within ninety (90) days after such appointment is initially made, any general assignment for the benefit of creditors, or the commencement of any proceeding under any bankruptcy or insolvency laws by or against such Party and such proceeding is not dismissed within ninety (90) days after the filing thereof.

"First Year of Abatement" shall mean January 1 of the calendar year immediately following the date Owner receives a Certificate of Occupancy for the Improvements.

"Force Majeure" means any contingency or cause beyond the reasonable control of a Party including, without limitation, acts of God or the public enemy, war, riot, civil commotion, insurrection, government or de facto governmental action (unless caused by the intentionally wrongful acts or omissions of the Party), fires, explosions, floods, strikes, slowdowns or work stoppages.

"Impact Fee Grant" means the grant from the Town in an amount equal to 75% of the Town impact fees (water, wastewater, and roadway) paid by Owner and received by the Town, which are attributable to the construction of the Improvements.

"Impositions" means all taxes, assessments, use and occupancy taxes, charges, excises, license and permit fees, and other charges by public or company governmental authority, general and special, ordinary and extraordinary, foreseen and unforeseen, which are or may be assessed, charged, levied, or imposed by any public or governmental authority on the Owner or any property or any business owned by the Owner within the Town.

"Improvements" means the one-story, approximately 127,810 square foot office-warehouse building identified on Exhibits "A" and "B" and other ancillary improvements such as reasonably required parking and landscaping more fully described in the submittals filed by Owner with the Town, and to be constructed upon the Real Property.

"Payment Request" means a written request from Owner to Town for payment of the Impact Fee Grant, which request shall be accompanied by evidence reasonably satisfactory to Town to establish that Owner is in compliance with this Agreement. The Payment Request must be submitted in accordance with the notice provisions of this Agreement.

"Person" means an individual, a corporation, partnership, limited liability company, association, trust, or other legal entity or organization.

"Real Property" means the approximately 7.59-acre tract of land located at 300 Old Gerault Road, generally at the northeast corner of Old Gerault and Enterprise Road, Town of Flower Mound, Texas, and as depicted on the attached Exhibit "A" and more particularly described by metes and bounds description on the attached Exhibit "C".

"Related Agreement" means any agreement (other than this Agreement) by and between Town and Owner.

"Taxable Value" shall mean the appraised value of the Improvements as certified by the Tarrant Appraisal District, or its successor, for a given year.

"Term" shall have the meaning assigned to such term in Section 2.2.

ARTICLE 2
PROGRAM AND TERM

2.1 Program. A program authorized under Chapter 380 of the Texas Local Government Code is hereby established to bring the Owner and the Improvements to the Town. The terms of this Agreement shall implement the program.

2.2 Term. The Term of this Agreement will commence on the Effective Date and will continue until the Expiration Date, unless sooner terminated as provided herein.

ARTICLE 3
OWNER OBLIGATIONS

As consideration for the tax abatements, Impact Fee Grant, and waiver of fees by Town, the Owner agrees and covenants as follows:

3.1 Construction of Improvements. Owner agrees to design and construct, or cause to be designed and constructed, the Improvements. Owner must: (i) submit a full and complete building permit application for construction of the Improvements, as deemed acceptable by the Town, no later than June 1, 2021; (ii) receive all necessary permits permitting construction of the Improvements from all applicable governmental authorities no later than September 1, 2021; and (iii) subject to events of Force Majeure, receive a Certificate of Occupancy for the Improvements on or before February 28, 2023.

3.2 Capital Investment. Owner agrees to make a Capital Investment of at least $7,000,000 million. In addition, Owner agrees to provide Town with documentation evidencing a minimum Capital Investment of $7,000,000 no later than ninety (90) days from the date the Owner receives a Certificate of Occupancy for the Improvements. Such documentation must be in a form reasonably acceptable to Town, and must contain a breakdown of costs paid by Owner and proof of payment in the form of contractor and/or subcontractor paid invoices and receipts.

3.3 Compliance with Laws. Owner agrees to construct the Improvements in accordance with the site plan attached hereto as Exhibit "A", the elevations and materials shown on the attached Exhibit "B", and all applicable federal, state and local laws, codes, and regulations (or valid waivers thereof).

3.4 Tenancy. Owner agrees that Owner or an Affiliate will continuously operate an office, warehouse, and distribution operation within the Improvements beginning on the date the Owner or Affiliate receives a Certificate of Occupancy for the Improvements and continuing thereafter throughout the Term of this Agreement.

3.5 Good Standing. Owner shall not have an uncured breach or default of this Agreement or a Related Agreement.

3.6 Audit. Owner shall grant access to Town, or such other persons or entities designated by Town for the purposes of inspecting, at Owner's office, during Owner's normal business hours, paper and electronic records, books, documents, tangible accounting procedures, tangible practices or any other items related to Owner's performance of this Agreement ("**Owner Records**"), provided that Town has provided five (5) business days prior notice, and Town or its representatives shall not unduly disrupt Owner's operations. The foregoing notwithstanding, all records, books, documents, accounting procedures, practices or any other items relevant to the performance of this Agreement shall be subject to examination or audit by Town, or such other persons or entities designated by Town in accordance with state and federal laws, regulations or directives applicable to Owner's performance of this Agreement. Town agrees, to the extent allowed by law, to maintain the confidentiality of the Owner Records. The Parties acknowledge that the Texas Public Information Act, Texas Government Code, Section 552.001 et seq. ("**Act**") requires that public records must be promptly disclosed by the Town upon request unless specifically exempted from disclosure. If compelled by deposition, interrogatory, request for documents, subpoena, civil investigative demand, or public records request (including under the Act or any Town ordinance, resolution or regulation implementing the Act), or similar processes, to disclose any of the Owner Records, the Town, as appropriate, shall use its best efforts to immediately provide Owner with prompt notice. Notwithstanding any term in this Agreement to the contrary, the Town's disclosure of Owner Records in compliance with a court order or an opinion from the Attorney General of Texas will not be considered a default or breach of this Agreement.

ARTICLE 4
TOWN OBLIGATIONS

Subject to Owner's continued satisfaction of its obligations as required by this Agreement, and subject to the provisions of this Article, Town will be obligated to do the following:

4.1 Tax Abatement.

(a) Subject to the terms and conditions of this Agreement, Town hereby grants Owner an abatement of seventy-five percent (75%) of the Taxable Value of the Improvements constructed upon the Real Property for a period of eight (8) consecutive years, beginning

with the First Year of Abatement. The actual percentage of Taxable Value of the Real Property subject to abatement for each year this Agreement is in effect will apply only to the portion of the Taxable Value of the Improvements that exceeds the Base Year Tax Value.

(b) The Real Property and Improvements are not in an improvement project financed by tax increment bonds.

(c) This Agreement is entered into subject to the rights of the holders of outstanding bonds of the Town.

(d) The Real Property is not owned or leased by any member of the Town's Town Council or any member of the Town's Planning and Zoning Commission.

(e) Owner shall, before May 1 of each calendar year that the Agreement is in effect, certify in writing to the Town that it is in compliance with each term of the Agreement.

(f) The Real Property and the Improvements constructed thereon at all times shall be used in the manner (i) that is consistent with the Town's Comprehensive Zoning Ordinance and all other Town development and building regulations, as amended or otherwise specified in this Agreement, and (ii) that, during the period taxes are abated hereunder, is consistent with the general purposes of encouraging development or redevelopment of the Zone.

(g) It shall be the responsibility of the Owner to file an annual exemption application form for the Real Property with the Tarrant Appraisal District. A copy of the respective exemption application shall be submitted to the Town upon request.

(h) Upon the receipt of reasonable notice, Owner will provide access to and authorize inspection of the Real Property and Improvements by Town employees to ensure that the Improvements are made according to the specifications and conditions of this Agreement.

4.2 Impact Fee Grant. The Town agrees to pay Owner the Impact Fee Grant within forty-five (45) days after: (i) the Owner receives a Certificate of Occupancy for the Improvements; and (ii) the Town's receipt of a Payment Request.

4.3 Permit Fee Waiver. The Town agrees to waive the following permit and related fees for construction of the Improvements: building permit fees, electrical permit fees, mechanical permit fees, plumbing permit fees, plan review fees, development permit fees, engineering inspection fees, and lighting plan review fees. Any fees not referenced herein as being waived are specifically deemed not to be waived by the Town.

ARTICLE 5
TERMINATION; REPAYMENT; OFFSET

5.1 Termination. This Agreement terminates on the Expiration Date, and may, prior to the Expiration Date, be terminated upon any one or more of the following:

(a) by mutual written agreement of the Parties;

(b) upon written notice by either Owner or Town, if the other Party defaults or breaches any of the terms or conditions of this Agreement and such default or breach is not cured within thirty (30) days after written notice thereof;

(c) upon written notice by Town, if any Impositions owed to Town or the State of Texas by Owner shall have become delinquent (provided, however, Owner retains the right to timely and properly protest and contest any such taxes or Impositions);

(d) upon written notice by Town, if Owner suffers an Event of Bankruptcy or Insolvency; or

(e) upon written notice by Owner or Town, if any subsequent Federal or State legislation or any final non-appealable judgment of a court of competent jurisdiction declares or renders this Agreement invalid, illegal, or unenforceable.

5.2 Repayment.

(a) Owner Repayment. In the event this Agreement is terminated by Town pursuant to Section 5.1 (b), (c), or (d), Owner shall within thirty (30) days of termination refund to Town: (i) an amount equal to the amount of the Impact Fee Grant and all fee waivers that have been provided by Town to Owner prior to the date of such termination, plus interest at the rate of interest periodically announced by the Wall Street Journal as the prime or base commercial lending rate, or if the Wall Street Journal shall ever cease to exist or cease to announce a prime or base lending rate, then at the annual rate of interest from time to time announced by Citibank, N.A. (or by any other New York money center bank selected by Town) as its prime or base commercial lending rate, accruing from the Effective Date until paid; and (ii) all real property taxes abated under this Agreement.

(b) Additional Remedies. Upon termination of this Agreement by Town, all taxes abated as a result of this Agreement shall become a debt to the Town as liquidated damages, and shall become due and payable not later than thirty (30) days after a notice of termination is provided. The Parties acknowledge that actual damages in the event of default would be speculative and difficult to determine. The Town shall have all remedies for the collection of the abated tax provided in the Texas Tax Code for the collection of delinquent property tax. The Town at its sole discretion has the option to provide a repayment schedule. The liquidated damages shall constitute a tax lien against the Real Property. Further, the liquidated damages shall incur penalties and interest as provided for

delinquent taxes in the Texas Tax Code and shall commence to accrue after expiration of the thirty (30) day payment period.

(c) Survival of Repayment Obligations. The repayment obligations of Owner set forth in this Section 5.2 shall survive termination of this Agreement.

5.3 Offsets. Town may, at its option, offset any amounts due and payable under this Agreement against any debt (including taxes) lawfully due to Town from Owner, regardless of whether the amount due arises pursuant to the terms of this Agreement, a Related Agreement or otherwise, and regardless of whether or not the debt due Town has been reduced to judgment by a court.

ARTICLE 6
MISCELLANEOUS

6.1 Binding Agreement. The terms and conditions of this Agreement are binding upon the successors and assigns of the Parties.

6.2 Limitation on Liability. It is understood and agreed between the Parties that Owner, in satisfying the conditions of this Agreement, is deemed to have acted independently, and Town assumes no responsibilities or liabilities to third parties in connection with these actions.

6.3 No Joint Venture. It is acknowledged and agreed by the Parties that the terms hereof are not intended to and shall not be deemed to create a partnership or joint venture among the Parties.

6.4 Authorization. Each Party represents that it has full capacity and authority to grant all rights and assume all obligations that are granted and assumed under this Agreement.

6.5 Notice. Any notice required or permitted to be delivered hereunder shall be deemed received three (3) days thereafter if sent by United States Mail, postage prepaid, certified mail, return receipt requested, addressed to the Party at the address set forth below (or such other address as such Party may subsequently designate in writing) or on the day actually received if sent by courier or otherwise hand delivered.

If intended for Town, to:	Town of Flower Mound, Texas Attn: Economic Development Director 2121 Cross Timbers Rd. Flower Mound, TX 75028
With a copy to:	Flower Mound Town Attorney Taylor, Olson, Adkins, Sralla & Elam, LLP 6000 Western Place, Suite 200 Fort Worth, Texas 76107
If intended for Owner, to:	Niagara Conservation Attn: Kyle Cutler

1200 Lakeside Parkway, #450
Flower Mound, TX 75028
RE: TA & Ch 380 Agrmnt.-Flower Mound/Niagara/Deus

With a copy to: Brown Moskowitz & Kallen, PC
180 River Road
Summit, New Jersey 07901
Attention: Keith E. Marlowe, Esq.

6.6 Entire Agreement. This Agreement is the entire agreement between the Parties with respect to the subject matter covered in this Agreement. There is no other collateral oral or written agreement between the Parties that in any manner relates to the subject matter of this Agreement, except as provided in any exhibits attached hereto.

6.7 Governing Law. The substantive laws of the State of Texas (and not its conflicts of law principles) govern all matters arising out of, or relating to, this Agreement and all of the transactions it contemplates, including without limitation its validity, interpretation, construction, performance and enforcement. Mandatory and exclusive venue for any action concerning this Agreement must be in a court of competent jurisdiction in Tarrant County, Texas

6.8 Amendment. This Agreement may only be amended by the mutual written agreement of the Parties.

6.9 Legal Construction. In the event any one or more of the provisions contained in this Agreement shall for any reason be held to be invalid, illegal, or unenforceable in any respect, such invalidity, illegality, or unenforceability shall not affect other provisions, and the balance of this Agreement will be deemed enforceable and must be read as if the Parties intended at all times to delete said invalid, illegal, or unenforceable provisions.

6.10 Counterparts. This Agreement may be executed in counterparts. Each of the counterparts shall be deemed an original instrument, but all of the counterparts shall constitute one and the same instrument.

6.11 Exhibits. All exhibits to this Agreement are incorporated herein by reference for all purposes wherever reference is made to the same.

6.12 Successors and Assigns. Except for an assignment to an Affiliate of Owner, this Agreement may not be assigned without the prior written consent of the Town.

6.13 Survival of Covenants. Any of the representations, warranties, covenants, and obligations of the Parties, as well as any rights and benefits of the Parties, pertaining to a period of time following the termination of this Agreement shall survive termination for such period of time. All other representations, warranties, covenants, and obligations shall expire.

6.14 Limitation of Damages. The Parties agree that no Party will be liable to the other under this Agreement for indirect, special, consequential damages (including lost profits), or exemplary damages.

6.15 Legislative or Judicial Changes. In the event of any legislative or judicial interpretation that limits or restricts Town's ability to pay the Impact Fee Grant, abate taxes, or otherwise extracts or imposes any penalty or other restriction upon the payment of the Impact Fee Grant or abatement of taxes, such payment and abatements will cease as of the effective date of such limitation or restriction and be of no further force, effect, or consequence in which event Town shall be under no further obligation to Owner as of the effective date of such limitation or restriction and Owner shall not be obligated to repay or compensate Town for any prior benefits provided to Owner, unless required to do so by law or court order. Town shall not take any action to seek a legislative interpretation or file an original petition in any action seeking a judicial interpretation which would limit or restrict Town's ability to pay the Impact Fee Grant, abate taxes, or otherwise extract or impose any penalty or other restriction upon the payment of the Impact Fee Grant or abatement of taxes. In any suit brought by a person not a Party to this Agreement, Owner shall have a reasonable time period to appeal any such judicial interpretation at its sole cost and expense and Town shall reasonably cooperate with any such appeals; provided, however, that Town is not obligated to become a party in any suit or expend any funds in cooperating with Owner.

6.16 Undocumented Workers. Owner certifies that Owner and its branches, divisions and departments, do not and will not knowingly employ an undocumented worker in accordance with Chapter 2264 of the Texas Government Code, as amended. If during the Term of this Agreement, Owner or any of their branches, divisions or departments is convicted of a violation under 8 U.S.C. § 1324a(f), Owner shall repay the amount of the public subsidy provided under this Agreement plus interest, at the rate of six percent (6%), not later than the 120th day after the date Town notifies Owner of the violation.

6.17 Governmental Function. The Parties agree that this Agreement concerns tax collection and serves the public purpose of contributing to the retention or expansion of primary employment or to attraction of major investment in the Zone that would be a benefit to the Real Property. The Parties further agree this Agreement serves the public purpose of assisting in the development and diversification of the economy of the Town and the State of Texas, eliminating unemployment or underemployment of the State, and developing and expanding commerce in the State, and is for all purposes a governmental function of Town for the benefit of the citizens of Town and the State of Texas. The Parties further agree that this Agreement is entered into for the purpose of carrying out governmental functions which are enjoined on the Town by law and given to it by the State of Texas as part of the State's sovereignty.

6.18 Attorney's Fees. If either Party employs an attorney or attorneys to enforce any of the provisions hereof, or to recover damages for the breach of this Agreement, the non-prevailing Party in any final judgment or award agrees to pay the other Party all reasonable costs, charges and expenses, including reasonable attorneys' fees and costs of court, expended or incurred in connection therewith.

PASSED AND APPROVED BY THE TOWN COUNCIL OF THE TOWN OF FLOWER MOUND, TEXAS, on this _____ day of _____, 2021.

TOWN:

TOWN OF FLOWER MOUND, TEXAS

_____
Steve Dixon, Mayor

STATE OF TEXAS)
)
COUNTY OF DENTON)

This instrument was acknowledged before me on the ____ day of _____, 2021, Steve Dixon, Mayor of the Town of Flower Mound, Texas, a Texas home rule municipality, on behalf of said Town.

_____
Notary Public, State of Texas

OWNER:

DEUS, LLC.

By: _____
Name: Kyle Cutler
Title: Manager

STATE OF _____)
)
COUNTY OF _____)

This instrument was acknowledged before me on the ____ day of _____, 2021, by _____, the _____ of DEUS, LLC.

_____
Notary Public, State of Texas

EXHIBIT "A"

Site Plan

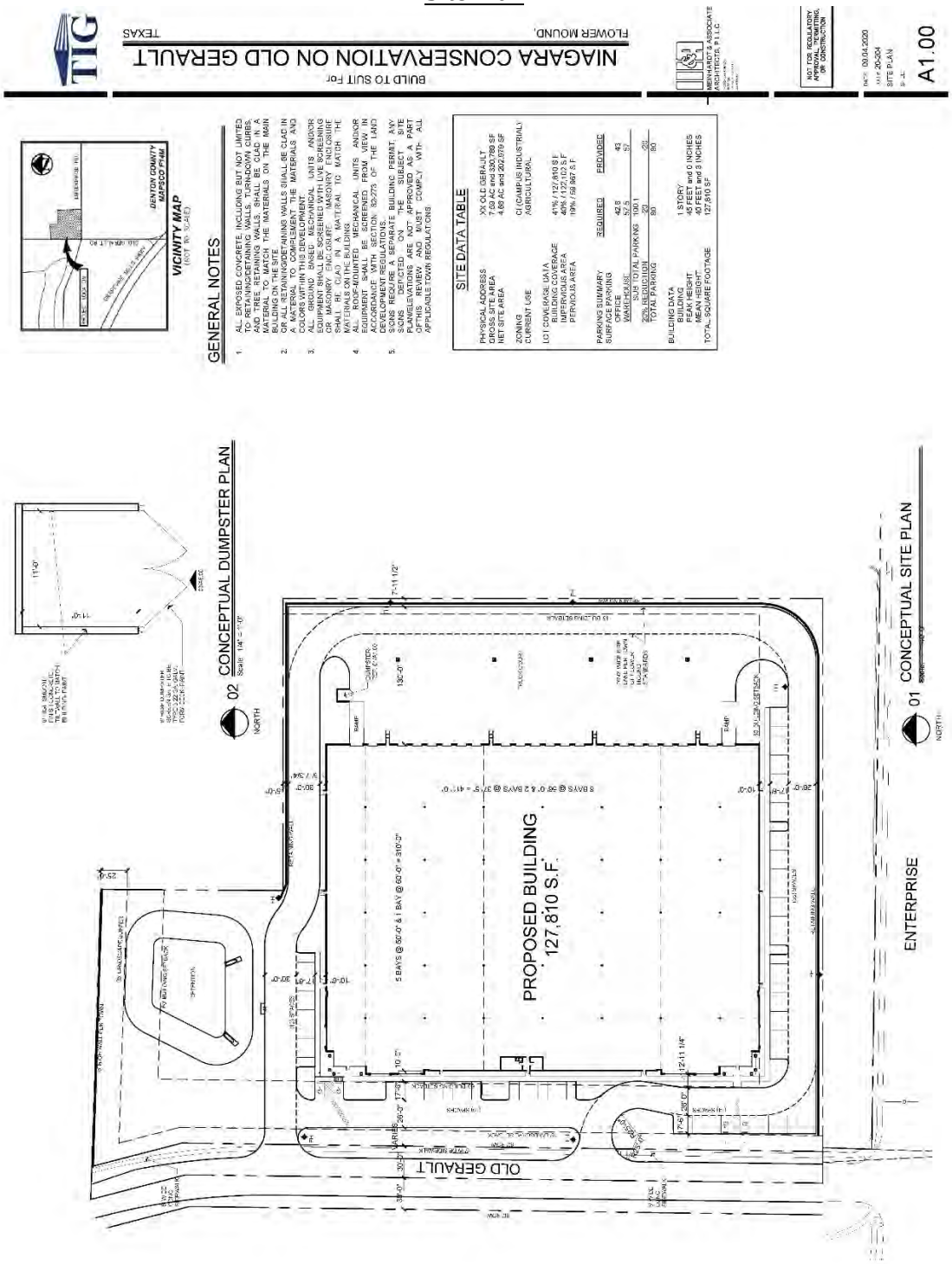


EXHIBIT “B”

Building Elevations

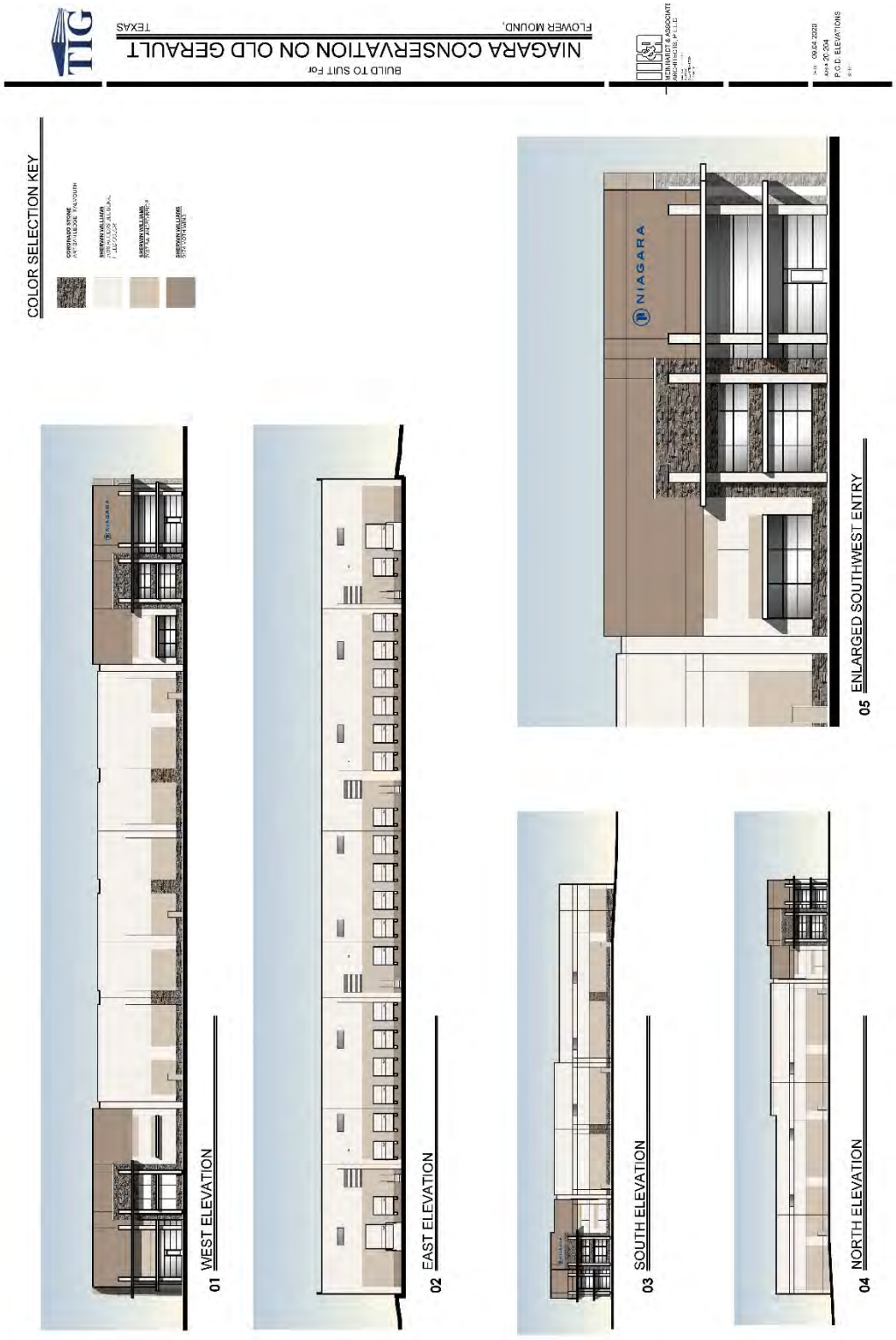


EXHIBIT “C”

Legal Description

DESCRIPTION, of a 7.594 acre tract of land situated in the J. Turner Survey, Abstract No. 1251, Denton County, Texas; said tract being all of that certain tract of land described in Warranty Deed to Robert C. Douglas & Patricia Ann Douglas recorded in Volume 456, Page 343 of the Deed Records of Denton County, Texas; said 7.594 acre tract being more particularly described as follows:

BEGINNING, at a 5/8-inch iron rod with "A.R.S." cap set for corner in Old Gerault Road (a variable width right-of-way);, said point being the northwest corner of said Old Gerault Road as dedicated by plat recorded in Cabinet U, Page 484 of the Plat Records of Denton County, Texas;

THENCE, North 00 degrees, 51 minutes, 35 seconds West, along the approximate centerline of said Old Gerault Road, a distance of 603.83 feet to a 5/8-inch iron rod with "A.R.S." cap set for corner;

THENCE, North 16 degrees, 06 minutes, 35 seconds West, continuing along the said approximate centerline of said Old Gerault Road a distance of 93.03 feet to a 5/8-inch iron rod with "A.R.S." cap set for corner; said point being the southwest corner of that certain tract of land described in Warranty Deed to YO-KO LLC recorded in Instrument No. D215290774 of the Official Public Records of Denton County, Texas;

THENCE, South 89 degrees, 44 minutes, 44 seconds East, departing the said centerline of Old Gerault Road and along the south line of said YO-KO LLC tract, a distance of 293.99 feet to a 1/2-inch iron rod found for corner; said point being the southeast corner of said YO-KO LLC tract and being in the west line of Lot 7X, Block A of the lakeside Ranch Business Park Addition, an addition to the Town of Flower Mound, Texas recorded in Cabinet X, Page 78 of said Plat Records;

THENCE, South 01 degrees, 14 minutes, 44 seconds East, along the said west line of Lot 7X, a distance of 172.65 feet to a 5/8-inch iron rod found for corner at the southwest corner of said Lot 7X;

THENCE, North 88 degrees, 23 minutes, 25 seconds East, along the south line of said Lot 7X, a distance of 276.97 feet to a 1-inch pipe found for corner at the northernmost northwesterly corner of Lot 1R, Block A of Lakeside Trade Center, an addition to the Town of Flower Mound, Texas recorded in Cabinet V, Page 843 of said Plat Records;

THENCE, South 01 degrees, 36 minutes, 35 seconds East, departing the said south line of Lot 7X and along the west line of said Lot 1R, a distance of 511.64 feet to a 5/8-inch iron rod with "A.R.S." cap set for corner; said point being an ell corner of said Lot 1R;

THENCE, South 88 degrees, 23 minutes, 25 seconds West, a north line of said Lot 1R, passing at a distance of 520.67 feet, the westernmost northwest corner of said Lot 1R, continuing for a total distance of 554.32 feet to the POINT OF BEGINNING;

CONTAINING: 330,798 square feet or 7.594 acres of land, more or less.

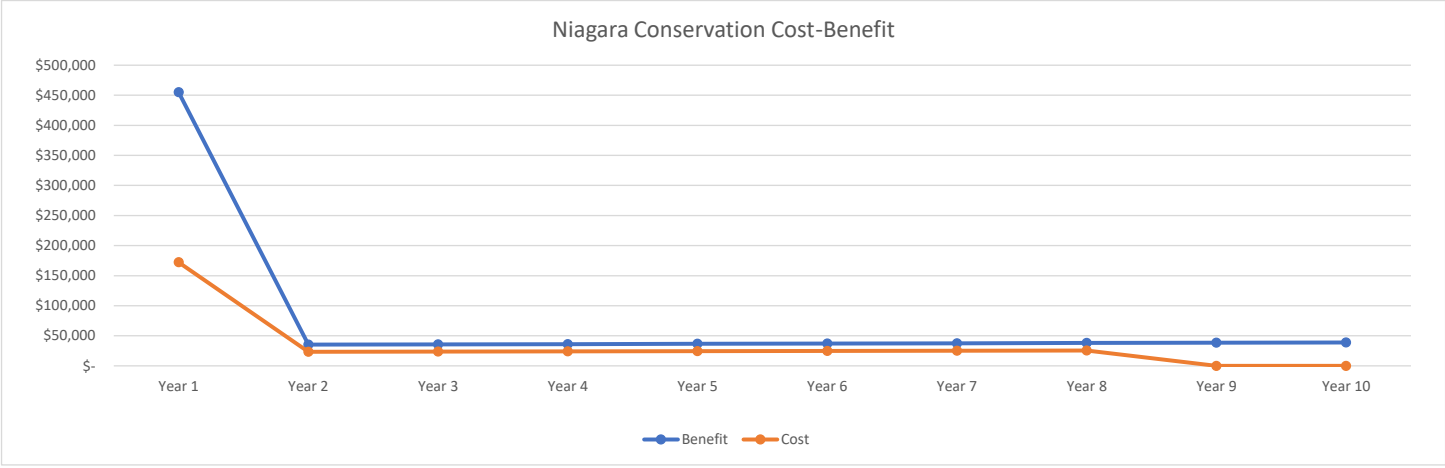
Attachment 2a

Niagara Incentive

Benefit		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Total
+1% rate	Real Property Value (75% of cap inv.)	$ 7,000,000	$ 7,105,000	$ 7,211,575	$ 7,319,749	$ 7,429,545	$ 7,540,988	$ 7,654,103	$ 7,768,914	$ 7,885,448	$ 8,003,730	
	Real Property Tax Revenue	$ 30,555	$ 31,013	$ 31,479	$ 31,951	$ 32,430	$ 32,916	$ 33,410	$ 33,911	$ 34,420	$ 34,936	**$ 327,022**
1% Depreciation	Business Personal Property Value	$ 1,000,000	$ 990,000	$ 980,100	$ 970,299	$ 960,596	$ 950,990	$ 941,480	$ 932,065	$ 922,745	$ 913,517	
	Business Personal Property Tax Revenue	$ 4,365	$ 4,321	$ 4,278	$ 4,235	$ 4,193	$ 4,151	$ 4,110	$ 4,068	$ 4,028	$ 3,988	**$ 41,737**
	Building Permit Fees	$ 29,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	**$ 29,000**
	Impact Fees	$ 83,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	**$ 83,000**
	Engineering Inspection Fee	$ 8,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	**$ 8,000**
	Development Permit Fee	$ 50,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	**$ 50,000**
	Tree Mitigation	$ 250,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	**$ 250,000**

Cost		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Total
75%	Real Property Abatement	$ 22,916	$ 23,260	$ 23,609	$ 23,963	$ 24,322	$ 24,687	$ 25,058	$ 25,433			**$ 193,249**
100%	Fee Waivers	$ 87,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	**$ 87,000**
75%	Impact Fees (75% Rebate)	$ 62,250	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	**$ 62,250**
												$ 342,499

Analysis		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Total
	Benefit	$ 454,920	$ 35,335	$ 35,757	$ 36,186	$ 36,623	$ 37,067	$ 37,520	$ 37,980	$ 38,448	$ 38,924	**$ 788,759**
	Cost	$ 172,166	$ 23,260	$ 23,609	$ 23,963	$ 24,322	$ 24,687	$ 25,058	$ 25,433	$ -	$ -	**$ 342,499**
	Net Benefit	$ 282,754	$ 12,075	$ 12,148	$ 12,223	$ 12,300	$ 12,380	$ 12,462	$ 12,546	$ 38,448	$ 38,924	**$ 446,260**



IMPACT REPORT - CURRENT & EXPANSION

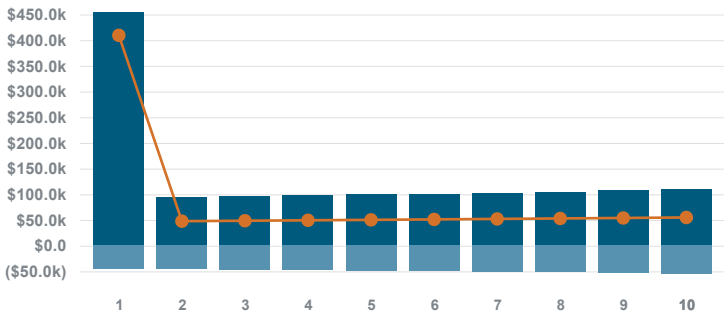
NIAGARA CONSERVATION

Niagara Scenario 1-8=Yr TA, Fee Waiver, 75% Impact Fee Rebate

Business Retention & Expansion

Town of Flower Mound

BENEFITS	COSTS	NET BENEFITS
$1,366,997	($499,640)	$867,357



JOBS

107.6 Total
71.0 Direct
36.6 Spin-off

30.0 New Jobs @ $50,000
41.0 Retained Jobs @ $50,000
71.0 Direct Jobs @ $50,000

SALARIES

$49,412 Avg
$50,000 Direct
$48,272 Spin-off

CAPITAL INVEST.

$7.0M
Buildings + FF&E

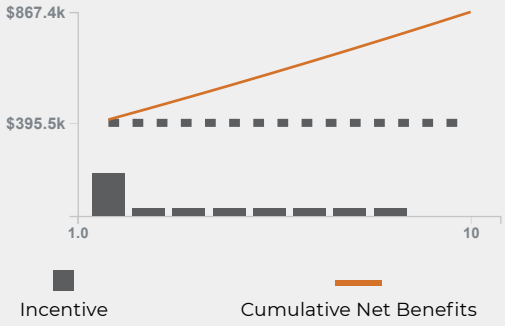
NET BENEFITS	$867,357
Present Value	$732,344

BENEFITS	
Sales Taxes	$72,436
Real Property Taxes	$477,955
FF&E Property Taxes	$47,497
Inventory Property Taxes	$0
New Residential Property Taxes	$1,917
Building Permits and Fees	$342,500
Utility Revenue	$369,079
Utility Franchise Fees	$0
Miscellaneous Taxes and User Fees	$55,613
Benefits Subtotal	**$1,366,997**

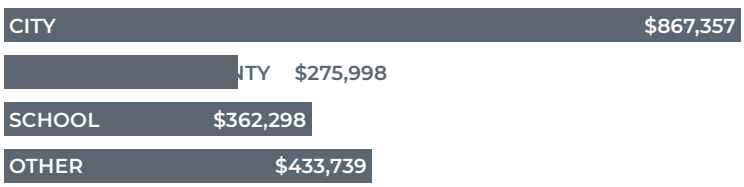
COSTS	
Cost of Government Services	($130,561)
Cost of Utility Services	($369,079)
Costs Subtotal	**($499,640)**

INCENTIVE ANALYSIS

$395,536	$13,185
Total Incentive	Per New Job
21.9%	**1.0 Yrs**
Rate of Return	Payback Period



NET BENEFITS OVER 10 YEARS



IMPACT DASHBOARD

TOWN COUNCIL AGENDA ITEM NO. 16

REGULAR ITEM

DATE: January 4, 2021

FROM: Brian Waltenburg, P.E., Assistant Director of Engineering

ITEM: **Public Hearing to consider the approval of an ordinance adopting updated land use assumptions and updated capital improvements plans, and to update and amend certain provisions of Chapter 42, "Impact Fees," regarding the imposition of impact fees and amending Appendix A, "Fee Schedule", accordingly. (The CIAC recommended approval by a vote of 9 to 0 at its November 9, 2020, meeting.)**

BACKGROUND INFORMATION: This item provides for the 5-year update of the Town's Impact Fee program as required by state law. It includes updates to the Town's land use assumptions, capital improvements plan and the imposition of impact fees that reflect the Town's current infrastructure and projected needs to serve new development during the next ten years.

Impact fees allow the Town to recoup costs associated with infrastructure needed to serve new development. The Town is required by Chapter 395 of the Texas Local Government Code to update impact fees every five years. The Town's last impact fee update was done in 2015. The 2020 Impact Fee update, performed by Kimley-Horn and Associates, Inc., as attached here, determines the maximum fee allowed by state law. The Town Council sets the actual fee to be collected from new development.

BOARD REVIEW/CITIZEN FEEDBACK: The Capital Improvements Advisory Committee recommended approval by a vote of 9 to 0 at its November 9, 2020, meeting.

The Town Code requires public notice in a newspaper of general circulation (Denton Record Chronicle) for all Impact Fee amendment requests. At the time this report was written, staff had received no correspondence regarding the request.

ALTERNATIVES/OPTIONS: N/A

FISCAL IMPACT: N/A

LEGAL REVIEW: The draft ordinance was prepared by Lindsey Hale with Taylor, Olson, Sralla, & Elam L.L.P.

ATTACHMENTS:

1. 2020 Land Use Assumptions for Impact Fee Update
2. 2020 Roadway Impact Fee Update
3. 2020 Water Impact Fee Update
4. 2020 Wastewater Impact Fee Update
5. Draft Ordinance

DRAFT MOTION: Move to approve as presented in the agenda caption.

Attachment 1

Town of Flower Mound, Texas

2020 Land Use Assumptions for Impact Fee Update

November 2020

Prepared for:
Town of Flower Mound

Prepared by:
Kimley»Horn
Kimley-Horn and Associates, Inc.
801 Cherry Street, Unit 11, Suite 1300
Fort Worth, TX 76102
Phone: 817 335 6511

TBPE Firm Registration Number: F-928

Project Number: 061000201

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Purpose

Chapter 395 of the Texas Local Government Code describes the procedure Texas political subdivisions must follow in order to assess impact fees for new development. The first step required in updating impact fees is the development of Land Use Assumptions. These Land Use Assumptions, including both population and employment estimates, form the basis for the development of impact fee Capital Improvement Plans for roadway, wastewater, and water, facilities.

Reasonable future growth estimates are necessary in order to aid the Town of Flower Mound in establishing the need for capital improvements required to serve future development. In accordance with Chapter 395, Kimley-Horn and Associates, Inc. (KHA) has compiled the information required to complete the update of the Land Use Assumptions using the following sources: the Town of Flower Mound Future Land Use Plan, previous land use assumptions used for recent thoroughfare plan modeling, consultation with Town staff, and building permit history. Included in this report are the growth projections based on assumptions pertaining to the type, location, quantity, and timing of various future land uses within the Town. In addition, this report also documents the methodology used in generating the growth and land use assumptions.

Components of the Land Use Assumptions Report

Methodology: An explanation of the general methodology used to create the land use assumptions.

Impact Fee Service Areas: An explanation and the division of Flower Mound into impact fee Service Areas for roadway, wastewater, and water facilities.

Base Year Data: Data on population, employment, and land use for the Town in the year 2020 for each Service Area.

Build Out Population Projection: Population and employment projections by Service Area, for a completely developed scenario.

Ten Year Growth Assumptions: Population and employment growth assumptions over the next ten years (2020-2030) for each Service Area.

Summary: A synopsis of the land use assumptions report.

Methodology

Chapter 395 of the Texas Local Government Code defines Land Use Assumptions as "a description of the service area and projections of changes in land uses, densities, intensities, and population in the service area over at least a 10-year period." The population and employment growth projections formulated in this report were done so using reasonable and generally accepted planning principles.

The future growth projections and land use assumptions were based upon several development patterns, which are listed below.

- Character, type, density, and quantity of existing development
- Zoning patterns in place
- Land use anticipated (as shown in the Master Land Use Plan)
- Growth trends currently in place
- Location and configuration of vacant land
- Physical holding capacity of Flower Mound
- Development projects, known or anticipated

The general methodology used in developing the land use assumptions include:

1. Establishing impact fee service areas for roadway, wastewater, and water facilities. (Exhibit 1, 2, & 3)
2. Collection/determination of population and employment data for the base year 2020.
3. Projection of the population and employment growth by Service Area at build out.
4. Projection of the ten-year (2020-2030) population and employment by Service Area.

Demographics from Denton and Tarrant County Appraisal Districts (DCAD/TAD) parcel data and recent building permit data served as the basis for establishing the year 2020 and ten year (2020-2030) demographic estimates and projections. After analyzing the build-out condition with consultation from Town staff, the determination was made that the build out projections would be based on a future Town population of 111,842.

Impact Fee Service Areas

Roadway Impact Fee Service Areas

The geographic boundaries of the three (3) impact fee service areas for roadway facilities are shown in Exhibit 1. The roadway service areas cover the entire corporate boundary of the Town of Flower Mound. Chapter 395 of the Texas Local Government Code specifies that "the service area is limited to an area within the corporate boundaries of the political subdivision and shall not exceed six (6) miles." The service areas used in the 2020 Roadway Impact Fee Update are the same as in the previous impact fee update (adopted in 2015).

Wastewater Impact Fee Service Areas

The geographic boundaries of the four (4) impact fee service areas for wastewater facilities are shown in Exhibit 2. These service areas consist of the Long Prairie, Lakeside, Denton Creek, and Prairie Vista areas.

Water Impact Fee Service Areas

The geographic boundary of the impact fee service area for water facilities is shown in Exhibit 3. Note that the water impact fee service area includes the Town limits plus some areas outside the corporate limits where the Town is providing or will be providing service.

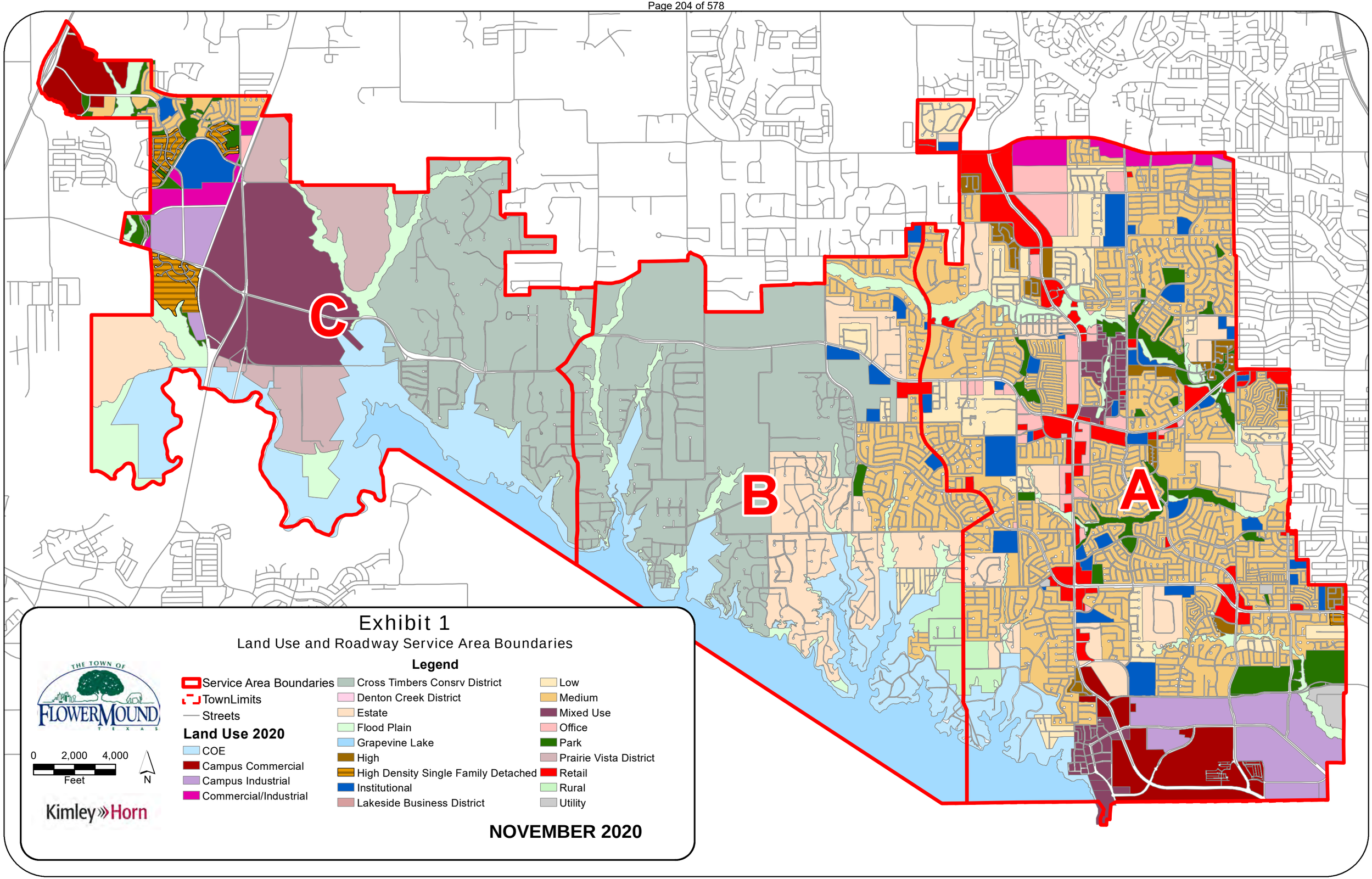


Exhibit 1

Land Use and Roadway Service Area Boundaries

THE TOWN OF FLOWER MOUND TEXAS

0 2,000 4,000
Feet
N

Kimley»Horn

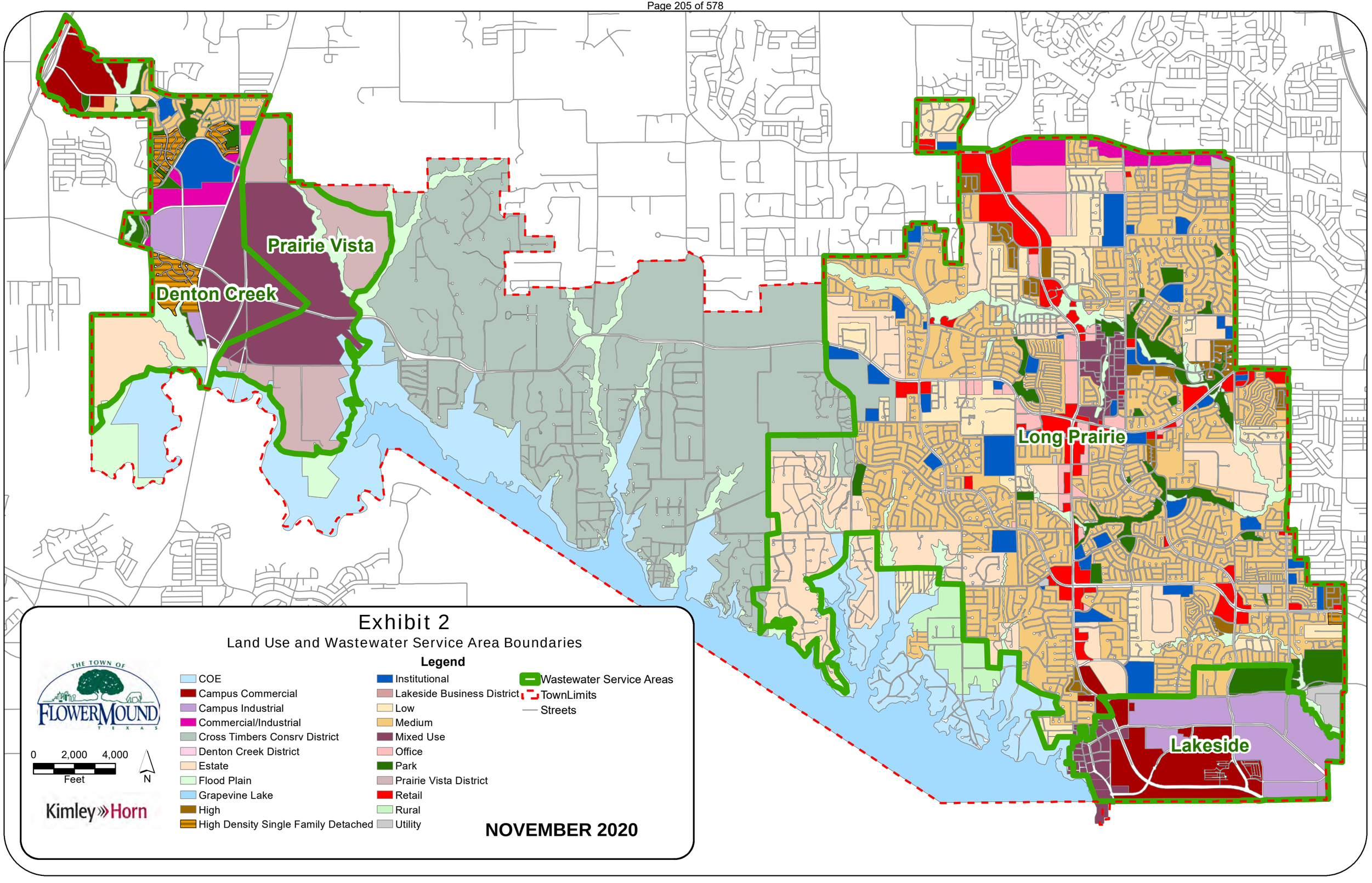
Legend

- Service Area Boundaries
- TownLimits
- Streets

Land Use 2020

- COE
- Campus Commercial
- Campus Industrial
- Commercial/Industrial
- Cross Timbers Consrv District
- Denton Creek District
- Estate
- Flood Plain
- Grapevine Lake
- High
- High Density Single Family Detached
- Institutional
- Lakeside Business District
- Low
- Medium
- Mixed Use
- Office
- Park
- Prairie Vista District
- Retail
- Rural
- Utility

NOVEMBER 2020


Prairie Vista
Denton Creek
Long Prairie
Lakeside
Exhibit 2
Land Use and Wastewater Service Area Boundaries
Legend
COE
Campus Commercial
Campus Industrial
Commercial/Industrial
Cross Timbers Consrv District
Denton Creek District
Estate
Flood Plain
Grapevine Lake
High
High Density Single Family Detached
Institutional
Lakeside Business District
Low
Medium
Mixed Use
Office
Park
Prairie Vista District
Retail
Rural
Utility
Wastewater Service Areas
TownLimits
Streets
THE TOWN OF FLOWER MOUND TEXAS
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Kimley»Horn
NOVEMBER 2020

Exhibit 3

Land Use and Water Service Area Boundaries

Legend

- COE
- Campus Commercial
- Campus Industrial
- Commercial/Industrial
- Cross Timbers Consrv District
- Denton Creek District
- Estate
- Flood Plain
- Grapevine Lake
- High
- High Density Single Family Detached
- Institutional
- Lakeside Business District
- Low
- Medium
- Mixed Use
- Office
- Park
- Prairie Vista District
- Retail
- Rural
- Utility
- Water Service Area
- TownLimits
- Streets

THE TOWN OF FLOWER MOUND TEXAS

0 2,000 4,000
Feet

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Kimley»Horn

NOVEMBER 2020

Data Format

The base year, ten year, and build out population and employment estimates were all compiled in accordance with the following categories and format:

Impact Fee Service Areas: Larger zones, which correspond to the proposed roadway, wastewater, and water facilities service areas (as described in the previous section).

Units: Number of dwelling units, both single and multi-family.

Population: Number of people, based on person per dwelling unit factors.

Employment: Square feet of building area based on three (3) different classifications.

Retail: Land use activities which provide for the retail sale of goods that primarily serve households and whose location choice is oriented toward the household sector such as grocery stores and restaurants.

Service: Land use activities which provide personal and professional services such as government and other professional administrative offices.

Basic: Land use activities that produce goods and services such as those that are exported outside the local economy; manufacturing, construction, transportation, wholesale, trade, warehousing, and other industrial uses.

Town Limits – Base Year Data (2020)

The baseline projections were made for the entire town corporate limits. The roadway, water, and wastewater land use assumptions were derived from these Town wide assumptions.

2020 Population

Population data for Flower Mound from 1970 to 2020 can be seen in the table below.

Year	Flower Mound
1970[1]	1,685
1980[1]	4,402
1990[1]	15,527
1995[2]	29,600
2000[1]	50,702
2010[1]	64,669
2019[3]	76,030
2020[4]	78,085

[1] Source: United States Census
[2] Source: NCTCOG Estimate
[3] Source: Town of Flower Mound Estimate
[4] Source: Kimley-Horn and Associates, Inc.

2020 Employment

The year 2020 employment was estimated using the DCAD parcel data and an aerial survey of existing development. Listed below is a summary of the employment figures for the year 2020.

2020 Employment in Square Feet[1]	
Type	
Basic	8,877,000
Retail	4,430,000
Service	5,743,000
Total	19,050,000

[1] Source: Kimley-Horn and Associates, Inc.

Town Limits – Build Out Year Data

Build Out Population

The build out dwelling unit figures were found by multiplying the Town's build out residential land area by the corresponding housing densities found in the Future Land Use Plan. It is estimated that there will be a total of approximately 40,842 housing units, both single and multi-family, resulting in a build out population of 111,842.

Build Out Employment

Build out employment, expressed as square feet of development, was calculated by multiplying the build out non-residential land area by the corresponding floor-to-area ratio (FAR). A summary of the projected total square feet of employment by basic, retail, and service can be seen below.

Build Out Employment in Square Feet [1]	
Basic	14,131,000
Retail	10,763,000
Service	12,439,000
Total	37,333,000

[1] Source: Kimley-Horn and Associates, Inc.

Roadway Land Use Assumptions Summary

The previously referenced town limit's base line and build out projections were further broken down into the three (3) Roadway Service Areas illustrated in Exhibit 1.

Residential

Based on the historical population data provided by the town, the 10-year rolling growth rate in the Town of Flower Mound as of 2019 was 1.94%. It was reasonable to assume that residential growth rate will be relatively similar during the next ten-year window. Based on knowledge of known growth areas and coordination with Town staff, it was assumed that the residential growth rate will be approximately 1.7% over the next ten years. This growth will add an additional 5,044 residential dwelling units to the Town of Flower Mound, resulting in an approximate 2030 total of 32,690 dwelling units.

Non-Residential

For the roadway land use assumptions, non-residential land uses were displayed in terms of square footage. Non-residential land use was projected based on known growth areas and on input from town staff. This growth will bring approximately an additional 8,022,000 square feet of non-residential development to the Town of Flower Mound by the year 2030.

Table 1 illustrates the baseline (2020), ten-year window (2030) by Roadway Service Area.

Table 1. Population and Employment Data by Roadway Service Area

Service Area	Year	Population	Units	Employment			
				Basic	Service	Retail	Total
A	2020	62,370	22,082	8,781,000	5,127,000	4,315,000	18,223,000
	2030	66,980	23,884	9,930,000	7,491,000	5,891,000	23,312,000
	Buildout	70,070	25,092	10,769,000	8,440,000	6,619,000	25,828,000
B	2020	11,775	4,169	41,000	477,000	115,000	633,000
	2030	12,108	4,299	41,000	537,000	115,000	693,000
	Buildout	13,154	4,708	41,000	547,000	140,000	728,000
C	2020	3,940	1,395	55,000	139,000	0	194,000
	2030	11,901	4,507	690,000	1,148,000	1,229,000	3,067,000
	Buildout	28,619	11,042	3,321,000	3,452,000	4,004,000	10,777,000
Total	2020	78,085	27,646	8,877,000	5,743,000	4,430,000	19,050,000
	2030	90,988	32,690	10,661,000	9,176,000	7,235,000	27,072,000
	Buildout	111,842	40,842	14,131,000	12,439,000	10,763,000	37,333,000

Wastewater Land Use Assumptions Summary

The previously referenced town limit's base line and build out projections were further broken down into the four (4) Wastewater Service Areas illustrated in Exhibit 2.

Table 2 illustrates the baseline (2020), ten-year window (2030), and build out by Wastewater Service Areas. For wastewater the non-residential land uses are converted to acreage. Note the land uses for the wastewater services area do not include the Cross Timbers Protection Area.

Table 2. Population and Employment by Wastewater Service Area

SA	Year	Population	Units	Employment			
				Basic	Service	Retail	Total
Denton Creek	2020	2,028	718	32,000	133,000	0	165,000
	2030	6,249	2,368	667,000	823,000	750,000	2,240,000
	Buildout	13,251	5,105	3,933,000	3,178,000	3,318,000	10,429,000
Prairie Vista	2020	42	15	23,000	0	0	23,000
	2030	3,153	1,231	23,000	276,000	414,000	713,000
	Buildout	11,150	4,357	23,000	1,147,000	1,720,000	2,890,000
Lakeside	2020	6,578	2,329	8,534,000	100,000	213,000	8,847,000
	2030	9,594	3,508	9,512,000	1,700,000	1,541,000	12,753,000
	Buildout	10,912	4,023	11,328,000	3,804,000	3,259,000	18,391,000
Long Prairie	2020	64,084	22,689	248,000	5,504,000	4,203,000	9,955,000
	2030	65,680	23,313	419,000	6,273,000	4,431,000	11,123,000
	Buildout	67,581	24,056	590,000	7,458,000	5,002,000	13,050,000
Total 2020		72,732	25,751	8,837,000	5,737,000	4,416,000	18,990,000
Total 2030		84,676	30,420	10,621,000	9,072,000	7,136,000	26,829,000
Buildout		102,893	37,541	15,874,000	15,587,000	13,299,000	44,760,000

Water Land Use Assumptions Summary

As previously mentioned, the Water Service Area is roughly a combination of the three roadway Service Areas.

Table 3 illustrates the baseline (2020) and ten-year window (2030) by the Water Service Area.

Table 3. Employment and Population Data by Service Area

Service Area	Year	Population	Units	Employment			
				Basic	Service	Retail	Total
Town Limits	2020	77,286	27,363	8,861,000	5,560,000	4,360,000	18,781,000
	2030	89,499	32,137	10,386,000	8,266,000	6,568,000	25,220,000
	Buildout	108,171	39,436	13,619,000	10,291,000	8,971,000	32,881,000

Summary

The following is a summary for the Town limits. This is equivalent to the roadway land use assumptions which was the adjusted for the wastewater and water land use assumptions.

- The existing (2020) population is approximately 78,085.
- The existing (2020) employment area is approximately 19,050,000 square feet.
- The ten-year (2030) population projection is approximately 90,998.
- The ten-year (2030) employment area projection is approximately 27,072,000 square feet.
- The build out population projection is approximately 111,842.
- The build out employment area projection is approximately 37,333,000 square feet.

THE TOWN OF FLOWER MOUND TEXAS

2020 Roadway Impact Fee Update

Town of Flower Mound, Texas

Kimley»Horn

Town of Flower Mound, Texas

2020 Roadway Impact Fee Update

November 2020

Prepared for:
Town of Flower Mound

Prepared by:
Kimley»Horn
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Phone: 817 335 6511

TBPE Firm Registration Number: F-928

Project Number: 061000201

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STATE OF TEXAS
PETER C. KELLY
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PROFESSIONAL ENGINEER

11-4-2020

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EXECUTIVE SUMMARY

Introduction

Impact Fees are a mechanism for funding the public infrastructure necessitated by new development. Across the country, they are used to fund police and fire facilities, parks, schools, roads, and utilities. In Texas, the legislature has allowed their use for roadway and drainage, water, and wastewater facilities. In 2020, the Town of Flower Mound began its update of the previously adopted (2015) Roadway, Water, and Wastewater Impact Fees as a funding tool for infrastructure needs as a result of growth in the Town.

In the most basic terms, impact fees are meant to recover the incremental cost of the impact of each new unit of development towards new infrastructure needs. Impact Fees are a mathematical calculation that determine a maximum fee that would be equivalent to growth paying for growth. This study's purpose is to calculate the maximum impact fee per service unit of new growth.

The Maximum Impact Fee is considered an appropriate measure of the impacts generated by a new unit of development on a city's infrastructure system. An impact fee program is anticipated to be designed so that it is predictable for both the development community and city. An impact fee program is transparent. This report describes in detail how the fee is calculated and how the Capital Improvements Advisory Committee (CIAC) monitors the Impact Fee program. An impact fee program is flexible in that funds can be used on priority projects and not just on projects adjacent to a specific development. An impact fee program is both equitable and proportional in that every new development pays an equal fee that is directly related to its systemwide impact.

Impact Fee Basics

Service Areas

A Service Area is a geographic area within which a unique maximum impact fee is determined. All fees collected within the Service Area must be spent on eligible improvements within the same Service Area. For Roadway Impact Fees, the Service Area may not exceed a 6-mile diameter trip length. In Flower Mound, this results in the creation of three (3) separate Roadway Service Areas. For Water and Wastewater Impact Fees, this study utilizes a singular Service Area for the Water and Wastewater components respectively. The Water and Wastewater Impact Fees are addressed in a separate report.

Land Use Assumptions

The Impact Fee determination is required to be based on the projected growth and corresponding capacity needs in a 10-year window. This study considers the years 2020-2030. The 10-year increase in residential units is projected to be 5,044 units within the Town Limits. The 2030 projections show an increase of 8,022,000 square feet of non-residential land uses over the 10-year window. These projections set the basis for determining loadings and demands to serve new growth. The distribution of residential and non-residential growth utilized information from historical population data and input from Town staff.

Service Units

The "service unit" is a measure of consumption or use of the capital facilities by new development. In other words, it is the unit of measure used to quantify the supply and demand for roads and utilities in the Town. Service units are attributable to an individual unit of development and utilized to calculate the maximum impact fee of a development.

For roadway purposes, the service unit is defined as a vehicle-mile. A "vehicle-mile" refers to the capacity consumed in a single lane by a vehicle making a trip one mile in length during the PM peak hour. The PM peak hour is the one-hour period during the afternoon/evening when the highest vehicular volumes are observed. In accordance with the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 10th Edition*, the PM Peak is used as the basis for transportation planning and the estimation of trips caused by new development.

Capital Improvement Plans

The Town and project staff have identified the roadway, water, and wastewater projects needed to accommodate the projected growth over the next ten (10) years within the Town of Flower Mound. These projects include existing, proposed, and recently completed projects that were determined based on their current or anticipated impact on each defined Service Area and the Town as a whole.

Roadway Impact Fee Capital Improvement Plan

The Town of Flower Mound Thoroughfare Plan is the ultimate plan for the roadway infrastructure within the Town Limits. The projects on the Roadway Impact Fee Capital Improvement Plan were selected from the Thoroughfare Plan and cover existing, proposed, and completed roadway improvements, as well as intersection improvements with 10-year growth potential. The project team and Town staff identified roadway and intersection projects with a projected total project cost (*not* impact fee eligible cost) of $170,120,119 over three (3) Roadway Service Areas.

Recoverable Project Costs

Impact Fees are a one-time fee meant to recover the incremental cost of the impact of each new unit of development creating new infrastructure needs within a ten-year window. With this consideration, the maximum assessable impact fee does not specifically cover the entire cost of a roadway, water, or wastewater project. The calculations that determine the percentage of a project's cost that is impact fee eligible are defined as the project's *recoverable cost*.

Roadway Recoverable Project Costs

The recoverable costs for roadway projects are calculated by first determining the net capacity of vehicle-miles supplied to support future growth within a 10-year window. This net capacity is then multiplied by the percentage of roadway capacity added attributable to this 10-year growth. This growth percentage is obtained through the derivation of a *transportation demand factor* (TDF), which computes the total vehicle-miles associated to a single land use development unit. The TDF is applied to both the net vehicle-miles supplied and the vehicle-mile growth projections to calculate the growth percentage needed to determine the total recoverable project costs, which total $116,345,778 (pre-finance) over three (3) Roadway Service Areas. Per state law this recoverable cost is reduced to account for future ad valorem tax revenues from the new development.

Maximum Assessable Impact Fee Calculation

In simplest terms, the maximum impact fee allowable by law is calculated by dividing the recoverable cost of the Capital Improvement Plans by the number of new service units of development. In accordance with state law, both the cost of the Capital Improvement Plan and the number of new service units of development used in the equation

are based on the growth and corresponding capacity needs projected to occur within a 10-year window. This calculation is performed for each service area individually; each service area has a stand-alone Capital Improvement Plan and 10-year growth projection.

In practice, there are many factors that complicate this calculation. The maximum impact fee allowable by law for each service area is shown on the following page:

Roadway Service Area	Roadway Maximum Fee Per Single Family Dwelling[1]
A	$2,954
B	$17,974
C	$15,976

Adoption Process

Chapter 395 of the Texas Local Government Code stipulates a specific process for the adoption of impact fees. A Capital Improvements Advisory Committee (CIAC) is required to review the Land Use Assumptions and Capacity Plan used in calculating the maximum fee, and to provide the Committee's findings for consideration by the Town Council. This CIAC also reviews the calculation and resulting maximum fees and provides its findings to the Town Council. The composition of the CIAC is required to have adequate representation of the building and development communities. In Flower Mound this is the Planning & Zoning Commission plus representatives from the Real Estate and Development communities. The Town Council then conducts a public hearing on the Land Use Assumptions, Capital Improvements Plan, and Impact Fee Ordinance.

Following policy adoption, the CIAC is tasked with advising the Town Council of the need to update the Land Use Assumptions or the Capital Improvements Plan at any time within five years of adoption. Finally, the CIAC oversees the proper administration of the Impact Fee, once in place, and advises the Council as necessary.

Chapter 395 of the Texas Local Government Code requires a total of two (2) public hearings before Council to approve an impact fee program. The first public hearing to discuss the land use assumptions and capacity plans was held on October 5, 2020. The second public hearing is scheduled to be held on December 7, 2020 with the intent of presenting a proposal for impact fee calculations and the adoption of an impact fee report (this study) and ordinance.

I. Introduction

Chapter 395 of the Texas Local Government Code describes the procedure Texas cities must follow in order to create and implement Impact Fees. Senate Bill 243 (SB 243) amended Chapter 395 in September 2001 to define an Impact Fee as "a charge or assessment imposed by a political subdivision against new development in order to generate revenue for funding or recouping the costs of capital improvements or facility expansions necessitated by and attributable to the new development."

Chapter 395 mandates that impact fees be reviewed and updated at least every five (5) years. Accordingly, the Town of Flower Mound has initiated a review of its Land Use Assumptions, Capital Improvement Plan (CIP), and Roadway Impact Fees. The Town has retained Kimley-Horn and Associates, Inc. to provide professional transportation engineering services for the 2020 update of their Roadway Impact Fees. This report includes the details of the Roadway Impact Fee calculation methodology in accordance with Chapter 395 and the adopted revisions to the Land Use Assumptions, Capital Improvement Plan, and refinement of the Land Use Equivalency Table.

This report introduces and references two of the basic inputs to the Roadway Impact Fee:

1. Land Use Assumptions (Pg. 2)
2. Capital Improvement Plan (Pg. 4)

Information from the Land Use Assumptions and this Capital Improvement Plan is used extensively throughout the remainder of the report.

This report consists of a detailed discussion of the methodology for the computation of impact fees and is broken down into two components:

1. Methodology for Roadway Impact Fees (Pg. 8)
2. Roadway Impact Fee Calculation (Pg. 19)

The components of the Methodology for Roadway Impact Fee include development of:

- Service Areas
- Service Units
- Cost Per Service Unit
- Cost of the CIP
- Service Unit Calculation

The components of the Roadway Impact Fee Calculation include:

- Maximum Assessable Impact Fee Per Service Unit
- Service Unit Demand Per Unit of Development

This report also includes a section concerning the Plan for Awarding the Roadway Impact Fee Credit. This plan, prepared by NewGen Strategies, details the maximum assessable impact fee per service unit the Town of Flower Mound may apply under Chapter 395 of the Texas Local Government Code.

The final section of the report is the Conclusion, which presents the findings of the update analysis and summarizes the report.

II. Roadway Impact Fee Calculation Inputs

A. Land Use Assumptions

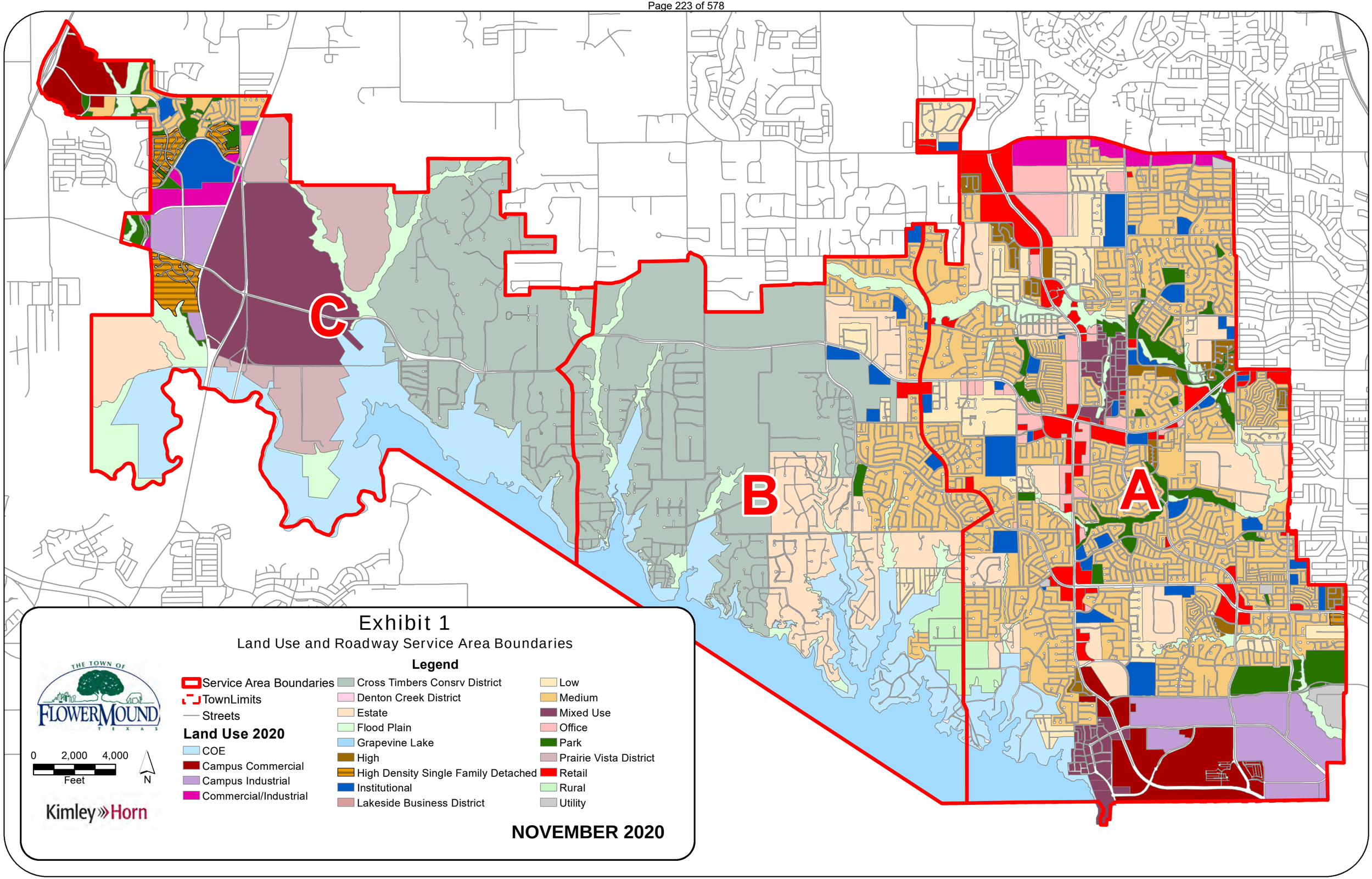
In order to assess an impact fee, land use assumptions must be developed to provide the basis for population and employment growth projections within a political subdivision. As defined by Chapter 395 of the Texas Local Government Code, these assumptions include a description of changes in land uses, densities, and population in the service area. The land use assumptions used in this report were developed and presented in a separate report titled 2020 Land Use Assumptions for Impact Fee Update (September 2020, Kimley-Horn and Associates, Inc.).

The future land use map and the geographic boundaries of the impact fee service areas for roadway facilities are shown in Exhibit 1. The Town of Flower Mound is divided into three (3) service areas, each based on a six (6) mile limit as required in Chapter 395.

Table 1 summarizes the residential and non-residential projections by service area within the Town of Flower Mound for 2020 and 2030. The Build Out projections are provided for reference purposes only. The information provided in Table 1 was taken from the previously referenced 2020 Land Use Assumptions for Impact Fee Update.

Table 1. Residential and Non-Residential Projections for the Town of Flower Mound

Service Area	Year	Population	Units	Employment			
				Basic	Service	Retail	Total
A	2020	62,370	22,082	8,781,000	5,127,000	4,315,000	18,223,000
	2030	66,980	23,884	9,930,000	7,491,000	5,891,000	23,312,000
	Buildout	70,070	25,092	10,769,000	8,440,000	6,619,000	25,828,000
B	2020	11,775	4,169	41,000	477,000	115,000	633,000
	2030	12,108	4,299	41,000	537,000	115,000	693,000
	Buildout	13,154	4,708	41,000	547,000	140,000	728,000
C	2020	3,940	1,395	55,000	139,000	0	194,000
	2030	11,901	4,507	690,000	1,148,000	1,229,000	3,067,000
	Buildout	28,619	11,042	3,321,000	3,452,000	4,004,000	10,777,000
Total	2020	78,085	27,646	8,877,000	5,743,000	4,430,000	19,050,000
	2030	90,988	32,690	10,661,000	9,176,000	7,235,000	27,072,000
	Buildout	111,842	40,842	14,131,000	12,439,000	10,763,000	37,333,000


C
B
A
Exhibit 1
Land Use and Roadway Service Area Boundaries
THE TOWN OF FLOWER MOUND TEXAS
0 2,000 4,000
Feet
N
Kimley»Horn
Legend
Service Area Boundaries
TownLimits
Streets
Land Use 2020
COE
Campus Commercial
Campus Industrial
Commercial/Industrial
Cross Timbers Consrv District
Denton Creek District
Estate
Flood Plain
Grapevine Lake
High
High Density Single Family Detached
Institutional
Lakeside Business District
Low
Medium
Mixed Use
Office
Park
Prairie Vista District
Retail
Rural
Utility
NOVEMBER 2020

B. Capital Improvement Plan

The Town has identified the Town-funded transportation projects needed to accommodate the projected growth within the Town. The Capital Improvement Plan (CIP) for Roadway Impact Fees is made up of the following:

- Recently completed projects with excess capacity available to serve new growth;
- Projects currently under construction; and
- All remaining projects needed to complete the Town's Master Thoroughfare Plan.

The CIP includes arterial and collector class roadway facilities as well as intersection improvements. All of the facilities are part of the currently adopted Master Thoroughfare Plan.

The CIP for Roadway Impact Fees for the 2020 Impact Fee Update is listed in Table 2 and mapped in Exhibit 2. The table shows the length of each project as well as the facility's Master Thoroughfare Plan classification. The CIP was developed in conjunction with input from Town of Flower Mound staff and represents those projects that will be needed to accommodate the growth projected in the 2020 Land Use Assumptions for Impact Fee Update.

Table 2.A. Roadway Improvement Plan for Roadway Impact Fees – Service Area A

Service Area	Proj. #	Class	Roadway	Limits	Length (mi)	% In Service Area
Service Area A	A-1	UMAD	Aberdeen Dr	FM 2499 (Long Prairie Rd) to 1340' N of Spinks Rd	0.48	100%
	A-2	UMAD	Aberdeen Dr	1340' N of Spinks Rd to 700' N of Spinks Rd	0.12	100%
	A-3	UMAU	Chinn Chapel Rd	FM 407 (Justin Rd) to Waketon Rd	0.66	50%
	A-4	UMAD	Dixon Ln	Chinn Chapel Rd to Crestside Dr	1.24	100%
	A-5	UMAU	Duncan Ln	Honeysuckle Way to Spinks Rd	0.38	50%
	A-6	UMAU	Firewheel Dr	515' S of FM 1171 to 140' S of Hearthstone Dr	0.24	100%
	A-7	P6D	FM 2499 (Long Prairie Rd)	FM 1171 (Cross Timbers) to Spinks Rd	2.73	100%
	A-8	GUA	Garden Ridge Blvd	Bellaire Blvd to Forest Vista Dr	0.81	50%
	A-9	GUA	Garden Ridge Blvd	FM 3040 to Spinks Rd	0.75	100%
	A-10	GUA	Garden Ridge Blvd	Spinks Rd to Lakeside Pkwy	0.42	100%
	A-11	UC	Kirkpatrick Ln	Morriss Rd to Kirkpatrick Ln	0.99	100%
	A-12	UMAD	Kirkpatrick Ln	Spanish Oak Dr to 1310' W of Garden Ridge Blvd	0.41	100%
	A-13	UC	Lake Forest Blvd	75' S of Lincoln Ct to Foxborough Trail	0.15	100%
	A-14	P6D	Lakeside Pkwy	FM 2499 (Long Prairie Rd) to Gerault Rd	1.08	100%
	A-15	P6D	Lakeside Pkwy	Gerault Rd to Garden Ridge Blvd	0.50	100%
	A-16	P6D	Lakeside Pkwy	Garden Ridge Blvd to South Town Limit	0.53	100%
	A-17	UMAD	Morriss Rd	Mandarin Way to Flower Mound Rd	0.16	100%
	A-18	UC	Sagebrush Dr	Old Settlers Rd to FM 2499 (Long Prairie Rd)	0.51	100%
	A-19,B-6	UMAU	Simmons Rd	Wichita Trail to McKamy Creek Rd	0.51	50%
	A-20	UMAD	Spinks Rd	Aberdeen Dr to Gerault Rd	0.93	100%
	A-21	UMAD	Spinks Rd	Gerault Rd to Garden Ridge Blvd	0.56	100%
	A-22	UMAU	Timber Creek Rd	445' S of Glenn Hollow Ln to Kirkpatrick Ln	0.20	100%
	A-23	UC	Waketon/College Connector	Waketon Rd to College Pkwy	0.27	100%
	A-24	UC	Windsor Dr	Amy Ln to FM 2499 (Long Prairie Rd)	0.60	100%
	A-25	UC	Yucca Dr	440' E of FM 2499 to 460' S of FM 1171	0.08	100%
	S-1		Intersection	College Pkwy. at Timber Creek Rd.		100%
	S-2		Intersection	Bruton Orand Blvd. at Quail Run Rd.		50%
	S-3		Intersection	Churchill Dr. at Peters Colony Rd.		100%
	S-4		Intersection	Cross Timbers Rd. at Forums Dr.		100%
	S-5		Intersection	Garden Ridge Blvd. at Kirkpatrick Ln.		100%
	S-6		Intersection	FM 2499 (Long Prairie Rd.) at Chaparral Ln.		100%
	S-7		Intersection	Garden Ridge Blvd. at Forest Vista Rd.		100%
	S-8		Intersection	FM 2499 (Long Prairie Rd.) at Northshore Blvd.		100%
	S-9		Intersection	FM 2499 (Long Prairie Rd.) at Aberdeen Dr.		100%
	S-10		Intersection	Lakeside Pkwy. at Silveron Blvd.		100%
	S-11		Intersection	FM 2499 (Long Prairie Rd.) at Silveron Blvd.		100%
	S-12		Intersection	Gerault Rd. at Old Gerault Rd.		100%
	S-13		Intersection	Lakeside Pkwy. at Enterprise Dr.		100%
	I - 1		Intersection Improvement	Dixon Ln. at Morriss Rd.		100%
	I - 2		Right-turn lane - all directions	FM 2499 (Long Prairie Rd.) at Waketon Rd.		100%
	I - 3		Intersection Improvement	FM 2499 (Long Prairie Rd.) at College Pkwy.		100%
	I - 4		Northbound right-turn lane	Bruton Orand Blvd. at Cross Timbers Rd.		50%
	I - 5		Intersection Improvement	Cross Timbers Rd. at Auburn Dr.		100%
	I - 6		Westbound right-turn lane	Cross Timbers Rd. at FM 2499 (Long Prairie Rd.)		100%
	I - 7		Intersection Improvement	Flower Mound Rd. at McKamy Creek Rd.		100%
	I - 8		Second left-turn lane, EB and SB	Flower Mound Rd. at FM 2499 (Long Prairie Rd.)		100%
	I - 9		Intersection Improvement	Flower Mound Rd. at Garden Ridge Blvd.		100%
	I - 10		Intersection Improvement	FM 2499 (Long Prairie Rd.) at Lakeside Pkwy.		100%
	I-11		Intersection Improvement	Lakeside Pkwy. At Gerault Rd.		100%

Table 2.B. Roadway Improvement Plan for Roadway Impact Fees – Service Area B

Service Area	Proj. #	Class	Roadway	Limits	Length (mi)	% In Service Area
Service Area B	B-1	UMAD	Flower Mound Rd	FM 1171 (Cross Timbers) to Skillern Rd	1.21	100%
	B-2	RC	Red Rock/Shiloh Connector	Red Rock Ln to Shiloh Rd	1.01	100%
	B-3	RC	Scenic /Flower Mound Connector	Scenic Dr to Alcott Ave	0.45	100%
	B-4	RC	Shiloh Rd/Lusk Ln Connector	2820' E of Shiloh Rd to Lusk Ln	0.58	100%
	B-5	RC	Shiloh Rd/Lusk Ln Connector	Shiloh Rd to 2820' E of Shiloh Rd	0.53	50%
	A-19,B-6	UMAU	Simmons Rd	Wichita Trail to McKamy Creek Rd	0.51	50%
	S-2		Intersection	Bruton Orand Blvd. at Quail Run Rd.		50%
	I - 4		Northbound right-turn lane	Bruton Orand Blvd. at Cross Timbers Rd.		50%
	I-12		Intersection Improvement	Cross Timbers Rd. at Flower Mound Rd.		100%

Table 2.C. Roadway Improvement Plan for Roadway Impact Fees – Service Area C

Service Area	Proj. #	Class	Roadway	Limits	Length (mi)	% In Service Area
Service Area C	C-1	RC	CrossTimbers/Dunham Connector	Cross Timbers Rd to Dunham Rd	0.51	100%
	C-2	GRA	CrossTimbers/US 377 Connector1	US 377 to Cross Timbers Rd	2.14	100%
	C-3	RC	CrossTimbers/US 377 Connector2	CrossTimbers/US 377 Connector1 to Cross Timbers Rd	0.90	100%
	C-4	UMABL	Denton Creek Blvd	IH-35 Diamond Interchange to 120' NW of Prairie Ridge Rd	1.17	100%
	C-5	UMABL	Denton Creek Blvd	Canyon Falls Dr to 1155' S of Canyon Falls Dr	0.23	100%
	C-6	UMABL	Denton Creek Blvd	1155' S of Canyon Falls Dr to Cross Timbers Rd	0.68	100%
	C-7	UC	Stonecrest Rd	850' S of Canyon Falls Dr to UMAB 1	0.24	100%
	C-8	UC	Stonecrest Rd	UMAB 1 to Cross Timbers Rd	0.70	100%
	C-9	UMABL	UMAB 1	Denton Creek Blvd to US 377	0.57	100%
	C-10	UMABL	UMAB2	Denton Creek Blvd to West Town Limit	0.27	100%
	C-11	UC	Urban Collector 1	Cross Timbers Road to Cross Timbers Rd	0.83	100%
	C-12	UC	Urban Collector 1	Stonecrest Rd to Cross Timbers Rd	0.59	100%
	S-14		Intersection	US 377 at Canyon Falls Dr.		100%
	S-15		Intersection	Cross Timbers Rd. at Canyon Falls Dr.		50%
	S-16		Intersection	Cross Timbers Rd. at Denton Creek Blvd.		100%
	S-17		Intersection	Cross Timbers Rd. at Cross Timbers/US 377 Connector 1		100%

Exhibit 2

Roadway Impact Fee CIP

THE TOWN OF FLOWER MOUND TEXAS

0 2,000 4,000

Feet

N

Kimley»Horn

NOVEMBER 2020

Legend

- Bridge, Proposed
- Intersection Improvements, Completed
- Intersection Improvements, In Design
- Intersection Improvements, Proposed
- Signal, Completed
- Signal, In Design
- Signal, Partially Completed
- Signal, Proposed

Impact Fee CIP

- Impact Fee Eligible Projects
- Impact Fee Eligible Widening Projects
- Impact Fee Eligible Median Lane Projects
- Impact Fee Eligible Completed Projects
- Other Thoroughfare Facilities

Service Areas

- A
- B
- C

III. Methodology for Roadway Impact Fees

A. Service Areas

The three (3) service areas used in the 2020 Roadway Impact Fee Update are shown in the previously referenced Exhibit 1. These service areas cover the entire corporate boundary of the Town of Flower Mound. Chapter 395 of the Texas Local Government Code specifies that "the service area is limited to an area within the corporate boundaries of the political subdivision and shall not exceed six (6) miles." The roadway service areas used in the 2020 Roadway Impact Fee Update are the same as in the previous impact fee update (adopted in 2015).

B. Service Units

The "service unit" is a measure of consumption or use of the roadway facilities by new development. In other words, it is the measure of supply and demand for roads in the Town. For transportation purposes, the service unit is defined as a vehicle-mile.

Another aspect of the service unit is the service volume that is provided (supplied) by a lane-mile of roadway facility. This number, also referred to as capacity, is a function of the facility type, facility configuration, number of lanes, and level of service. Below is the definition for vehicle-mile.

Vehicle-Mile: The capacity consumed in a single lane in the PM peak hour by a vehicle making a trip one mile in length. The PM Peak is commonly used as the basis for transportation planning and the estimation of trips caused by new development.

Total Vehicle-Miles of Supply: Based on the total length (miles), number of lanes, and capacity (vehicles per hour) provided by the Flower Mound Thoroughfare Plan (see Appendix B).

Total Vehicle-Miles of Demand: Based on the 10-year growth projections. The demand is equal to PM Trip Rate (trips) * Trip Length (miles).

The hourly service volumes used in the Roadway Impact Fee Update are based upon Thoroughfare Capacity Criteria published by the North Central Texas Council of Governments (NCTCOG) and applied to the Town of Flower Mound. Tables 3A and 3B shows the service volumes as a function of the facility type.

Table 3A. Level of Use for Proposed Facilities
(used in Appendix B – CIP Units of Supply)

Roadway Type (MTP Classifications)	Median Configuration	Hourly Vehicle-Mile Capacity per Lane-Mile of Roadway Facility
P6D – Major Arterial	Divided	750
GUA – Greenway Urban Arterial	Divided	650
GRA – Greenway Rural Arterial	Divided	650
UMAD – Urban Minor Arterial	Divided	650
UMABL* – Urban Minor Arterial	Divided	650
UMAU – Urban Minor Arterial	Undivided	525
UC – Urban Collector	Undivided	425
RC – Rural Collector	Undivided	425

*(BL) – Facilities with bike lanes

Table 3B. Level of Use for Existing Facilities
(used in Appendix C – Existing Facilities Inventory)

Roadway Type	Description	Hourly Vehicle-Mile Capacity per Lane-Mile of Roadway Facility
7U	Seven lane undivided (TWLTL)	750
6D	Six lane divided	750
5U	Five lane undivided (TWLTL)	625
4D	Four lane divided	650
4U	Four lane undivided	525
3U	Three lane undivided (TWLTL)	525
2U-H	High Speed, Limited Access Two lane	750
2U	Two lane undivided	475
2U-R	Rural Cross-Section (i.e. gravel, dirt, etc.)	150

C. Cost Per Service Unit

A fundamental step in the impact fee process is to establish the cost for each service unit. In the case of the Roadway Impact Fee, this is the cost for each vehicle-mile of travel. This cost per service unit is the cost to construct a roadway (lane-mile) needed to accommodate a vehicle-mile of travel at a level of service corresponding to the Town's standards. The cost per service unit is calculated for each service area based on a specific list of projects within that service area.

The second component of the cost per service unit is the number of service units in each service area. This number is the measure of the growth in transportation demand that is projected to occur in the ten-year period. Chapter 395 requires that impact fees be assessed only to pay for growth projected to occur in the Town limits within the next ten-years, a concept that will be covered in a later section of this report (see Section III.E). As noted earlier, the units of demand are vehicle-miles of travel.

D. Cost of the CIP

The costs that may be included in the cost per service unit are all of the implementation costs for the Roadway Impact Fee Update, as well as project costs for arterial system elements within the Capital Improvement Plan. Chapter 395 of the Texas Local Government Code specifies that the allowable costs are "…including and limited to the:

1. Construction contract price;
2. Surveying and engineering fees;
3. Land acquisition costs, including land purchases, court awards and costs, attorney's fees, and expert witness fees; and
4. Fees actually paid or contracted to be paid to an independent qualified engineer or financial consultant preparing or updating the Capital Improvement Plan who is not an employee of the political subdivision."

The engineer's opinion of the probable costs of the projects in the CIP is based, in part, on the calculation of a unit cost of construction. This means that a cost per linear foot of roadway is calculated based on an average price for the various components of roadway construction. This allows the probable cost to be determined by the type of facility being constructed, the number of lanes, and the length of the project. The costs for location-specific items such as bridges, highway ramps, drainage structures, and any other special components are added to each project as appropriate. In addition, based upon discussions with Town of Flower Mound staff, projects in which the Town has contributed a portion of the total project cost have been included in the CIP as lump sum costs. The following is a detailed description of the costing worksheet/methodology for the Roadway Impact Fee CIP.

1. Overview of Roadway Impact Fee CIP Costing Worksheets

For each project a specific costing worksheet was developed (see Appendix A). Each worksheet contained the following four (4) main components:

- Project Information,
- Construction Pay Items,
- Construction Component Allowances and
- Summary of Costs and Allowances

Town of Flower Mound
2020 Roadway Impact Fee Update
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
updated: 10/16/2020

Project Information

Project Information:		**Description:**	**Project No.**	**A-2**
Name:	Aberdeen Dr	**This project consists of the widening of the existing two-lane concrete facility into a four-lane divided Urban Minor Arterial.**		
Limits:	1340' N of Spinks Rd to 700' N of Spinks Rd			
Impact Fee Class:	UMAD (1/2)			
Ultimate Class:	UMAD			
Length (lf):	655			
Service Area(s):	A			

Construction Pay Items

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
112	Unclassified Street Excavation	946	CY	$ 27.00	$ 25,545
212	10" Lime Stabilization	2,038	SY	$ 15.00	$ 30,567
312	8" Reinforced Concrete	1,892	SY	$ 73.00	$ 138,132
412	Block Sod with 4" Topsoil (with sidewalk)	509	SY	$ 10.00	$ 5,094
512	4' Sidewalk	2,620	SF	$ 8.00	$ 20,960
				Paving Construction Cost Subtotal:	**$ 220,298**

Construction Component Allowances

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
√	Prep ROW		5%	$ 11,015
√	Traffic Control	Construction Phase Traffic Control	15%	$ 33,045
√	Pavement Markings/Markers		5%	$ 11,015
√	Roadway Drainage	Standard Internal System	35%	$ 77,104
	Special Drainage Structures	None Anticipated	$0	$ -
√	Water	Minor Adjustments	5%	$ 11,015
√	Sewer	Minor Adjustments	5%	$ 11,015
√	Establish Turf / Erosion Control		2%	$ 4,406
√	Illumination	Standard Ilumination System	6%	$ 13,218
	Other:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 171,833**
			Paving and Allowance Subtotal:	**$ 392,131**
			Construction Contingency: 15%	$ 58,820
			Construction Cost TOTAL:	**$ 451,000**

Summary of Costs and Allowances

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 451,000**
Engineering/Survey/Testing:		20%	$ 90,200
Mobilization		6%	$ 27,060
ROW/Easement Acquisition:	Existing Alignment	15%	$ 67,650
		Impact Fee Project Cost TOTAL:	**$ 636,000**

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the Town of Flower Mound.
The planning level cost projections shall not supersede the Town's Design Criteria and Construction Standards in the Code of Ordinances or the determination of the Town Engineer for a specific project.

2. Project Information

In order to correctly estimate the cost of a roadway project, several attributes are first identified:

- Project Number – Identifies which Service Area the project is in with a corresponding number. The corresponding number does not represent any prioritizations and is used only to identify projects. For example, Project A-10 is in Service Area A and is the 10th project on the list.
- Name – A unique identifier for each project. In some cases where roadway names are unknown the connecting limits may be used such as US 377 – FM 1171.
- Limits – Represents the beginning and ending location for each project.
- Impact Fee Class – The costing class to be used in the analysis. The impact fee class provides the width for the various elements in the roadway. The construction costs are variable, based on the proposed Thoroughfare Plan classification of the roadway. For example, UMAU stands for Urban Minor Arterial Undivided. A UMAU Impact Fee Class means the entire roadway is to be constructed. Additional classifications are utilized in cases where a portion of the facility currently exists and the road is only to be widened. The following notations are used for these projects:
  - "(1/2)" for facilities where half the facility still needs to be constructed;
  - "(1/6)" for future six-lane principal arterial facilities where one additional lane is needed
  - "(1/3)" for future six-lane principal arterial facilities where two additional median lanes are needed
  - "(2/3)" for future six-lane principal arterial facilities where four additional lanes are needed
- Ultimate Class – The functional classification on Flower Mound's Thoroughfare Plan.
- Length (ft) – The distance measured in feet that is used to cost out the project.
- Service Area(s) – Represents the service areas where the project is located.
- Description – Used to describe the project type assumed in the costing such as a widening or reconstruction.

3. Construction Pay Items

A typical roadway project consists of a number of costs, including the following: planning, survey, design engineering, permitting, right-of way acquisition, construction and inspection. While the construction cost component of a project may actually consist of approximately 100 various pay items, a simplified approach was used for developing the conceptual level project costs. Each new project's construction cost was divided into three cost components: roadway construction cost, major construction component allowances, and summary of cost and allowances.

4. Construction Component Allowances

A percentage of the paving construction cost is allotted for various major construction component allowances, as appropriate. These allowances include traffic control, pavement markings and signage, roadway drainage, illumination, minor water and sewer adjustments, landscaping and irrigation. These allowance percentages are also based on historical data.

In addition, lump sum dollar allowances are provided for special drainage structures, railroad crossings, and intersection improvements where needs are anticipated. The paving and allowance subtotal is given a fifteen percent (15%) contingency.

5. Summary of Cost and Allowances

To determine the total Impact Fee Project Cost, twenty percent (20%) of the construction cost total is added for engineering, surveying, and testing. An additional six percent (6%) of the construction cost total is added for mobilization.

Percentages are also allotted for ROW/easement acquisition. ROW/easement acquisition was based on whether the project was an existing alignment or future alignment. For an existing alignment, the ROW/easement acquisition cost was provided an allotment equal to 15% of the construction cost total. For a new alignment, the ROW/easement acquisition cost was equal to 30% of the construction cost total. The value for ROW/easement acquisition is an estimated contribution allocation and does not represent actual ROW/easement acquisition needs.

The Impact Fee Project Cost Total is the Construction Cost Total plus engineering, surveying, testing, and inspection; plus ROW/easement acquisition; and minus roadway escrow agreements.

Table 4.A – 10-Year Capital Improvement Plan for Roadway Impact Fees with Conceptual Level Project Cost Projections – Service Area A

Service Area	Proj. #	Class	Roadway	Limits	Length (mi)	% In Service Area	Total Project Cost	Cost in Service Area
Service Area A	A-1	UMAD	Aberdeen Dr	FM 2499 (Long Prairie Rd) to 1340' N of Spinks Rd	0.48	100%	$ 1,454,821	$ 1,454,821
	A-2	UMAD	Aberdeen Dr	1340' N of Spinks Rd to 700' N of Spinks Rd	0.12	100%	$ 636,000	$ 636,000
	A-3	UMAU	Chinn Chapel Rd	FM 407 (Justin Rd) to Waketon Rd	0.66	50%	$ 2,728,803	$ 1,364,402
	A-4	UMAD	Dixon Ln	Chinn Chapel Rd to Crestside Dr	1.24	100%	$ 5,297,438	$ 5,297,438
	A-5	UMAU	Duncan Ln	Honeysuckle Way to Spinks Rd	0.38	50%	$ 562,532	$ 281,266
	A-6	UMAU	Firewheel Dr	515' S of FM 1171 to 140' S of Hearthstone Dr	0.24	100%	$ 603,525	$ 603,525
	A-7	P6D	FM 2499 (Long Prairie Rd)	FM 1171 (Cross Timbers) to Spinks Rd	2.73	100%	$ 1,515,721	$ 1,515,721
	A-8	GUA	Garden Ridge Blvd	Bellaire Blvd to Forest Vista Dr	0.81	50%	$ 1,146,031	$ 573,016
	A-9	GUA	Garden Ridge Blvd	FM 3040 to Spinks Rd	0.75	100%	$ 1,891,126	$ 1,891,126
	A-10	GUA	Garden Ridge Blvd	Spinks Rd to Lakeside Pkwy	0.42	100%	$ 2,504,704	$ 2,504,704
	A-11	UC	Kirkpatrick Ln	Morriss Rd to Kirkpatrick Ln	0.99	100%	$ 3,794,884	$ 3,794,884
	A-12	UMAD	Kirkpatrick Ln	Spanish Oak Dr to 1310' W of Garden Ridge Blvd	0.41	100%	$ 5,243,000	$ 5,243,000
	A-13	UC	Lake Forest Blvd	75' S of Lincoln Ct to Foxborough Trail	0.15	100%	$ 1,400,601	$ 1,400,601
	A-14	P6D	Lakeside Pkwy	FM 2499 (Long Prairie Rd) to Gerault Rd	1.08	100%	$ 4,375,554	$ 4,375,554
	A-15	P6D	Lakeside Pkwy	Gerault Rd to Garden Ridge Blvd	0.50	100%	$ 2,018,856	$ 2,018,856
	A-16	P6D	Lakeside Pkwy	Garden Ridge Blvd to South Town Limit	0.53	100%	$ 2,145,590	$ 2,145,590
	A-17	UMAD	Morriss Rd	Mandarin Way to Flower Mound Rd	0.16	100%	$ 1,009,492	$ 1,009,492
	A-18	UC	Sagebrush Dr	Old Settlers Rd to FM 2499 (Long Prairie Rd)	0.51	100%	$ 3,209,771	$ 3,209,771
	A-19,B-6	UMAU	Simmons Rd	Wichita Trail to McKamy Creek Rd	0.51	50%	$ 1,128,789	$ 564,395
	A-20	UMAD	Spinks Rd	Aberdeen Dr to Gerault Rd	0.93	100%	$ 448,253	$ 448,253
	A-21	UMAD	Spinks Rd	Gerault Rd to Garden Ridge Blvd	0.56	100%	$ 968,297	$ 968,297
	A-22	UMAU	Timber Creek Rd	445' S of Glenn Hollow Ln to Kirkpatrick Ln	0.20	100%	$ 690,850	$ 690,850
	A-23	UC	Waketon/College Connector	Waketon Rd to College Pkwy	0.27	100%	$ 1,353,000	$ 1,353,000
	A-24	UC	Windsor Dr	Amy Ln to FM 2499 (Long Prairie Rd)	0.60	100%	$ 1,058,867	$ 1,058,867
	A-25	UC	Yucca Dr	440' E of FM 2499 to 460' S of FM 1171	0.08	100%	$ 214,416	$ 214,416
	S-1		Intersection	College Pkwy. at Timber Creek Rd.		100%	$ 275,000	$ 275,000
	S-2		Intersection	Bruton Orand Blvd. at Quail Run Rd.		50%	$ 275,000	$ 137,500
	S-3		Intersection	Churchill Dr. at Peters Colony Rd.		100%	$ 990,000	$ 990,000
	S-4		Intersection	Cross Timbers Rd. at Forums Dr.		100%	$ 179,000	$ 179,000
	S-5		Intersection	Garden Ridge Blvd. at Kirkpatrick Ln.		100%	$ 275,000	$ 275,000
	S-6		Intersection	FM 2499 (Long Prairie Rd.) at Chaparral Ln.		100%	$ 375,000	$ 375,000
	S-7		Intersection	Garden Ridge Blvd. at Forest Vista Rd.		100%	$ 275,000	$ 275,000
	S-8		Intersection	FM 2499 (Long Prairie Rd.) at Northshore Blvd.		100%	$ 275,000	$ 275,000
	S-9		Intersection	FM 2499 (Long Prairie Rd.) at Aberdeen Dr.		100%	$ 380,000	$ 380,000
	S-10		Intersection	Lakeside Pkwy. at Silveron Blvd.		100%	$ 275,000	$ 275,000
	S-11		Intersection	FM 2499 (Long Prairie Rd.) at Silveron Blvd.		100%	$ 390,000	$ 390,000
	S-12		Intersection	Gerault Rd. at Old Gerault Rd.		100%	$ 275,000	$ 275,000
	S-13		Intersection	Lakeside Pkwy. at Enterprise Dr.		100%	$ 275,000	$ 275,000
	I - 1		Intersection Improvement	Dixon Ln. at Morriss Rd.		100%	$ 375,000	$ 375,000
	I - 2		Right-turn lane - all directions	FM 2499 (Long Prairie Rd.) at Waketon Rd.		100%	$ 1,473,000	$ 1,473,000
	I - 3		Intersection Improvement	FM 2499 (Long Prairie Rd.) at College Pkwy.		100%	$ 333,000	$ 333,000
	I - 4		Northbound right-turn lane	Bruton Orand Blvd. at Cross Timbers Rd.		50%	$ 375,000	$ 187,500
	I - 5		Intersection Improvement	Cross Timbers Rd. at Auburn Dr.		100%	$ 375,000	$ 375,000
	I - 6		Westbound right-turn lane	Cross Timbers Rd. at FM 2499 (Long Prairie Rd.)		100%	$ 492,000	$ 492,000
	I - 7		Intersection Improvement	Flower Mound Rd. at McKamy Creek Rd.		100%	$ 336,000	$ 336,000
	I - 8		Second left-turn lane, EB and SB	Flower Mound Rd. at FM 2499 (Long Prairie Rd.)		100%	$ 460,000	$ 460,000
	I - 9		Intersection Improvement	Flower Mound Rd. at Garden Ridge Blvd.		100%	$ 375,000	$ 375,000
	I - 10		Intersection Improvement	FM 2499 (Long Prairie Rd.) at Lakeside Pkwy.		100%	$ 375,000	$ 375,000
	I-11		Intersection Improvement	Lakeside Pkwy. At Gerault Rd.		100%	$ 375,000	$ 375,000
							Service Area Project Cost Subtotal	**$ 54,150,844**
							2020 Roadway Impact Fee Update Cost Per Service Area	**$ 30,000**
							Total Cost in SERVICE AREA A	**$ 54,180,844**

Table 4.B – 10-Year Capital Improvement Plan for Roadway Impact Fees with Conceptual Level Project Cost Projections – Service Area B

Service Area	Proj. #	Class	Roadway	Limits	Length (mi)	% In Service Area	Total Project Cost	Cost in Service Area
Service Area B	B-1	UMAD	Flower Mound Rd	FM 1171 (Cross Timbers) to Skillern Rd	1.21	100%	$ 680,380	$ 680,380
	B-2	RC	Red Rock/Shiloh Connector	Red Rock Ln to Shiloh Rd	1.01	100%	$ 6,845,000	$ 6,845,000
	B-3	RC	Scenic /Flower Mound Connector	Scenic Dr to Alcott Ave	0.45	100%	$ 3,067,000	$ 3,067,000
	B-4	RC	Shiloh Rd/Lusk Ln Connector	2820' E of Shiloh Rd to Lusk Ln	0.58	100%	$ 3,945,000	$ 3,945,000
	B-5	RC	Shiloh Rd/Lusk Ln Connector	Shiloh Rd to 2820' E of Shiloh Rd	0.53	50%	$ 3,611,000	$ 1,805,500
	A-19,B-6	UMAU	Simmons Rd	Wichita Trail to McKamy Creek Rd	0.51	50%	$ 1,128,789	$ 564,395
	S-2		Intersection	Bruton Orand Blvd. at Quail Run Rd.		50%	$ 275,000	$ 137,500
	I - 4		Northbound right-turn lane	Bruton Orand Blvd. at Cross Timbers Rd.		50%	$ 230,000	$ 115,000
	I-12		Intersection Improvement	Cross Timbers Rd. at Flower Mound Rd.		100%	$ 375,000	$ 375,000
							Service Area Project Cost Subtotal	**$ 17,534,775**
							2020 Roadway Impact Fee Update Cost Per Service Area	**$ 30,000**
							Total Cost in SERVICE AREA B	**$ 17,564,775**

Table 4.C – 10-Year Capital Improvement Plan for Roadway Impact Fees with Conceptual Level Project Cost Projections – Service Area C

Service Area	Proj. #	Class	Roadway	Limits	Length (mi)	% In Service Area	Total Project Cost	Cost in Service Area
Service Area C	C-1	RC	CrossTimbers/Dunham Connector	Cross Timbers Rd to Dunham Rd	0.51	100%	$ 3,483,000	$ 3,483,000
	C-2	GRA	CrossTimbers/US 377 Connector1	US 377 to Cross Timbers Rd	2.14	100%	$ 22,005,000	$ 22,005,000
	C-3	RC	CrossTimbers/US 377 Connector2	CrossTimbers/US 377 Connector1 to Cross Timbers Rd	0.90	100%	$ 6,090,000	$ 6,090,000
	C-4	UMABL	Denton Creek Blvd	IH-35 Diamond Interchange to 120' NW of Prairie Ridge Rd	1.17	100%	$ 28,014,000	$ 28,014,000
	C-5	UMABL	Denton Creek Blvd	Canyon Falls Dr to 1155' S of Canyon Falls Dr	0.23	100%	$ 1,435,000	$ 1,435,000
	C-6	UMABL	Denton Creek Blvd	1155' S of Canyon Falls Dr to Cross Timbers Rd	0.68	100%	$ 4,323,000	$ 4,323,000
	C-7	UC	Stonecrest Rd	850' S of Canyon Falls Dr to UMAB 1	0.24	100%	$ 3,137,000	$ 3,137,000
	C-8	UC	Stonecrest Rd	UMAB 1 to Cross Timbers Rd	0.70	100%	$ 5,437,000	$ 5,437,000
	C-9	UMABL	UMAB 1	Denton Creek Blvd to US 377	0.57	100%	$ 4,444,000	$ 4,444,000
	C-10	UMABL	UMAB2	Denton Creek Blvd to West Town Limit	0.27	100%	$ 3,512,000	$ 3,512,000
	C-11	UC	Urban Collector 1	Cross Timbers Road to Cross Timbers Rd	0.83	100%	$ 10,995,000	$ 10,995,000
	C-12	UC	Urban Collector 1	Stonecrest Rd to Cross Timbers Rd	0.59	100%	$ 4,577,000	$ 4,577,000
	S-14		Intersection	US 377 at Canyon Falls Dr.		100%	$ 205,000	$ 205,000
	S-15		Intersection	Cross Timbers Rd. at Canyon Falls Dr.		50%	$ 275,000	$ 137,500
	S-16		Intersection	Cross Timbers Rd. at Denton Creek Blvd.		100%	$ 275,000	$ 275,000
	S-17		Intersection	Cross Timbers Rd. at Cross Timbers/US 377 Connector 1		100%	$ 275,000	$ 275,000
							Service Area Project Cost Subtotal	**$ 98,344,500**
							2020 Roadway Impact Fee Update Cost Per Service Area	**$ 30,000**
							Total Cost in SERVICE AREA C	**$ 98,374,500**
							Total CIP COST	**$ 170,120,119**

Notes:

a. The planning level cost projections have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the Town of Flower Mound.
b. The planning level cost projections shall not supersede the Town's design standards contained within the Subdivision Ordinance or the determination of the Town Engineer for a specific project.
c. The project cost total within each Service Area may differ from the total shown in the Summary sheets contained within Appendix A due to some projects that are split between multiple service areas.

E. Service Unit Calculation

The basic service unit for the computation of Flower Mound's roadway impact fees is the vehicle-mile of travel during the evening peak-hour. To determine the cost per service unit, it is necessary to project the growth in vehicle-miles of travel for the service area for the ten-year period.

The growth in vehicle-miles from 2020 to 2030 is based upon projected changes in residential and non-residential growth for the period. In order to determine this growth, baseline estimates of population, basic square feet, service square feet, and retail square feet for 2020 were made by the Town, along with projections for each of these demographic statistics through 2030. The Land Use Assumptions for 2020 Impact Fee Update details the growth estimates used for the impact fee determination.

The residential and non-residential statistics in the Land Use Assumptions provide the "independent variables" that are used to calculate the existing (2020) and projected (2030) transportation service units used to establish the roadway impact fee maximum rates within each service area. The roadway demand service units (vehicle-miles) for each service area are the sum of the vehicle-miles "generated" by each category of land use in the service area.

For the purpose of impact fees, all developed and developable land is categorized as either residential or non-residential. For residential land uses, the existing and projected population is converted to dwelling units. The number of dwelling units in each service area is multiplied by a transportation demand factor to compute the vehicle-miles of travel that occur during the evening peak hour. This factor computes the average amount of demand caused by the residential land uses in the service area. The transportation demand factor is discussed in more detail below.

For non-residential land uses, the process is similar. The Land Use Assumptions provide existing and projected number of building square footages for three (3) categories of non-residential land uses – basic, service, and retail. These categories correspond to an aggregation of other specific land use categories based on the North American Industrial Classification System (NAICS).

Building square footage is the most common independent variable for the estimation of non-residential trips in the Institute of Transportation Engineers' (ITE) Trip Generation Manual, 10th Edition. This characteristic is more appropriate than the number of employees because building square footage is tied more closely to trip generation and is known at the time of application for any development or development modification that would require the assessment of an impact fee.

The existing and projected Land Use Assumptions for the dwelling units and the square footage of basic, service, and retail land uses provide the basis for the projected increase in vehicle-miles of travel. As noted earlier, a transportation demand factor is applied to these values and then summed to calculate the total peak hour vehicle-miles of demand for each service area.

The transportation demand factors are aggregate rates derived from two sources – the ITE Trip Generation Manual, 10th Edition and the latest Regional Origin-Destination Travel Survey performed by NCTCOG. ITE's Trip Generation Manual, 10th Edition provides the number of trips that are produced or attracted to the land use for each dwelling unit, square foot of building, or other corresponding unit. For the retail category of land uses, the rate is adjusted to account for the fact that a percentage of retail trips are made by people who would otherwise be traveling past that particular establishment anyway, such as a trip between work and home. These trips are called pass-by trips, and since the travel demand is accounted for in the land use calculations relative to the primary trip, it is necessary to discount the retail rate to avoid double counting trips.

The next component of the transportation demand factor accounts for the length of each trip. The average trip length for each category is based on the region-wide travel characteristics survey conducted by NCTCOG.

The computation of the *transportation demand factor* is detailed in the following equation:

$$TDF = T * (1 - P_b) * L_{\max}$$

$$\text{where...}\ L_{\max} = \min (L * OD \ \text{ or } \text{SA}_\text{L})$$

Variables:

- TDF = Transportation Demand Factor,
- T = Trip Rate (peak hour trips / unit),
- P_b = Pass-By Discount (% of trips),
- L_{max} = Maximum Trip Length (miles),
- L = Average Trip Length (miles), and
- OD = Origin-Destination Reduction (50%)
- SA_L = Max Service Area Trip Length (see Table 5)

The maximum trip length was limited to six (6) miles based on the maximum trip length within each service area. Chapter 395 of the Texas Local Government Code allows for a service area of six (6) miles, and the service areas within Flower Mound are approximately six (6) miles in distance.

The adjustment made to the average trip length statistic in the computation of the maximum trip length is the origin-destination reduction. This adjustment is made because the Roadway Impact Fee is charged to both the origin and destination end of the trip. For example, impact fee methodology will account for a trip from home to work within Flower Mound to both residential and non-residential land uses. To avoid counting these trips as both residential and non-residential trips, a 50% origin-destination (OD) reduction factor is applied. Therefore, only half of the trip length is assessed to each land use. This methodology is consistent with that used in the National Household Travel Survey.

Table 5 shows the derivation of the Transportation Demand Factor for the residential land uses and the three (3) non-residential land use categories. The values utilized for all variables shown in the transportation demand factor equation are also shown in the table.

Table 5. Transportation Demand Factor Calculations

Variable	Residential (ITE 210)	Basic (ITE 110)	Service (ITE 710)	Retail (ITE 820)
T	.99	0.63	1.15	3.81
P_b	0%	0%	0%	34%
L	9.79	10.02	14.65	5.60
L_{max} *	4.90	5.01	6.00	2.80
TDF	4.85	3.16	6.90	7.04

The application of the demographic projections and the transportation demand factors are presented in the 10-Year Growth Projections in Table 6. This table shows the total vehicle-miles by service area for the years 2020 and 2030. These estimates and projections lead to the Vehicle-Miles of Travel for both 2020 and 2030.

Table 6. 10-Year Growth Projections

Year 2020

SERVICE AREA	RESIDENTIAL VEHICLE-MILES			SQUARE FEET[4]			TRANS. DEMAND FACTOR[5]			NON-RESIDENTIAL VEHICLE-MILES[9]				TOTAL VEHICLE MILES[10]
	DWELLING UNITS[1]	TDF[2]	VEHICLE MILES[3]	BASIC	SERVICE	RETAIL	BASIC[6]	SERVICE[7]	RETAIL[8]	BASIC	SERVICE	RETAIL	TOTAL	
		0.99					*0.63*	*1.15*	*2.51*					
A	22,082	4.85	107,098	8,781,000	5,127,000	4,315,000	3.16	6.90	7.04	27,748	35,376	30,381	93,505	200,603
B	4,169	4.85	20,220	41,000	477,000	115,000	3.16	6.90	7.04	130	3,291	810	4,231	24,451
C	1,395	4.85	6,766	55,000	139,000	0	3.16	6.90	7.04	174	959	0	1,133	7,899
Totals	**27,646**		**134,083**	**8,877,000**	**5,743,000**	**4,430,000**				**28,052**	**39,626**	**31,191**	**98,869**	**232,952**

Year 2030

SERVICE AREA	RESIDENTIAL VEHICLE-MILES			SQUARE FEET[4]			TRANS. DEMAND FACTOR[5]			NON-RESIDENTIAL VEHICLE-MILES[9]				TOTAL VEHICLE MILES[10]
	DWELLING UNITS[1]	TDF[2]	VEHICLE MILES[3]	BASIC	SERVICE	RETAIL	BASIC[6]	SERVICE[7]	RETAIL[8]	BASIC	SERVICE	RETAIL	TOTAL	
		0.99					*0.63*	*1.15*	*3.81*					
A	23,884	4.85	115,837	9,930,000	7,491,000	5,891,000	3.16	6.90	7.04	31,379	51,688	41,478	124,545	240,382
B	4,299	4.85	20,850	41,000	537,000	115,000	3.16	6.90	7.04	130	3,705	810	4,645	25,495
C	4,507	4.85	21,859	690,000	1,148,000	1,229,000	3.16	6.90	7.04	2,180	7,921	8,653	18,754	40,613
Totals	**32,690**		**158,547**	**10,661,000**	**9,176,000**	**7,235,000**				**33,689**	**63,314**	**50,941**	**147,944**	**306,491**

VEHICLE-MILES OF INCREASE[11] (2020 - 2030)

SERVICE AREA	VEH-MILES
A	39,780
B	1,045
C	32,714
Total	73,538

Notes:

[1] From *Land Use Assumptions for 2020 Impact Fees Update Report*

[2] Transportation Demand Factor for each Service Area (from LUVMET) using Single Family Detached Housing land use and *trip generation rate*

[3] Calculated by multiplying TDF by the number of dwelling units

[5] *Trip generation rate* and Transportation Demand Factors from LUVMET for each land use

[6] 'Basic' corresponds to General Light Industrial land use and *trip generation rate*

[7] 'Service' corresponds to General Office land use and *trip generation rate*

[8] 'Retail' corresponds to Shopping Center land use and *trip generation rate*

[9] Calculated by multiplying Transportation Demand Factor by the number of thousand square feet for each land use

[10] Residential plus non-residential vehicle-mile totals for each Service Area

[11] Total Vehicle-Miles (2020) subtracted from Total Vehicle-Miles (2030)

IV. Roadway Impact Fee Calculation

A. Maximum Assessable Impact Fee Per Service Unit

This section presents the maximum assessable impact fee rate calculated for each service area. The maximum assessable impact fee is the sum of the eligible Roadway Impact Fee CIP costs for the service area divided by the growth in travel attributable to new development projected to occur within the 10-year period. A majority of the components of this calculation have been described and presented in previous sections of this report. The purpose of this section is to document the computation for each service area and to demonstrate that the guidelines provided by Chapter 395 of the Texas Local Government Code have been addressed. Table 7 illustrates the computation of the maximum assessable impact fee computed for each service area. Each row in the table is numbered to simplify explanation of the calculation.

Table 7. Maximum Assessable Roadway Impact Fee Computation

Line	Title	Description
1	*Total Vehicle-Miles of Capacity Added by the CIP*	The total number of vehicle-miles added to the service area based on the capacity, length, and number of lanes in each project (from Appendix B – CIP Service Units of Supply)

Each project identified in the Impact Fee CIP will add a certain amount of capacity to the Town's roadway network based on its length and classification. This line displays the total amount added within each service area.

2	*Total Vehicle-Miles of Existing Demand*	A measure of the amount of traffic currently using the roadway facilities upon which capacity is being added (from Appendix B – CIP Service Units of Supply)

A number of facilities identified in the Impact Fee CIP have traffic currently utilizing a portion of their existing capacity. This line displays the total amount of capacity along these facilities currently being used by existing traffic.

3	*Total Vehicle-Miles of Existing Deficiencies*	Number of vehicle-miles of travel that are not accommodated by the existing roadway system (from Appendix C – Existing Roadway Facilities Inventory)

In order to ensure that existing deficiencies on the Town's roadway network are not recoverable through impact fees, this line is based on the entire roadway network within the service area. Any roadway within the service area that is deficient – even those not identified on the Impact Fee CIP – will have these additional vehicle-miles removed from the calculation.

4	*Net Amount of Vehicle-Miles of Capacity Added*	A measurement of the number of vehicle-miles added by the CIP that will not be utilized by existing demand (Line 1 – Line 2 – Line 3)

This calculation identifies the portion of the Impact Fee CIP (in vehicle-miles) that may be recoverable through the collection of impact fees.

5	*Total Cost of the CIP within the Service Area*	The total cost of the projects within each service area (from Table 4: 10-Year Capital Improvement Plan with Conceptual Level Cost Opinions)

This line simply identifies the total cost of all projects identified in each service area.

6	*Cost of Net Capacity Supplied*	The total CIP cost (Line 5) prorated by the ratio of Net Capacity Added (Line 4) to Total Capacity Added (Line 1). [(Line 4 / Line 1) * (Line 5)]

Using the ratio of vehicle-miles added by the Roadway Impact Fee CIP available to serve future growth to the total vehicle-miles added, the total cost of the CIP is reduced to the amount available for future growth (i.e. excluding existing usage and deficiencies).

7	*Cost to Meet Existing Needs and Usage*	The difference between the Total Cost of the CIP (Line 5) and the Cost of the Net Capacity supplied (Line 6). (Line 5 **–** Line 6)

This line is provided for informational purposes only – it is to present the portion of the total cost of the Roadway Impact Fee CIP that is required to meet existing demand.

8	*Total Vehicle-Miles of New Demand over Ten Years*	Based upon the growth projection provided in the Land Use Assumptions, an estimate of the number of new vehicle-miles within the service area over the next ten years (from Table 6)

This line presents the amount of growth (in vehicle-miles) projected to occur within each service area over the next ten years.

9	*Percent of Capacity Added Attributable to New Growth*	The result of dividing Total Vehicle-Miles of New Demand (Line 8) by the Net Amount of Capacity Added (Line 4), limited to 100% (Line 10). This calculation is required by Chapter 395 to ensure capacity added is attributable to new growth.
10	*Chapter 395 Check*	

In order to ensure that the vehicle-miles added by the Roadway Impact Fee CIP do not exceed the amount needed to accommodate growth beyond the ten-year window, a comparison of the two values is performed. If the number of vehicle-miles added by the Roadway Impact Fee CIP exceeds the growth projected to occur in the next ten years, the Roadway Impact Fee CIP cost is reduced accordingly.

11	*Cost of Capacity Added Attributable to New Growth*	The result of multiplying the Cost of Net Capacity Added (Line 6) by the Percent of Capacity Added Attributable to New Growth, limited to 100% (Line 9).

This value is the total Impact Fee CIP project costs (excluding financial costs) that may be recovered through impact fees. This line is determined considering the limitations to impact fees required by the Texas legislature.

A. Plan For Awarding the Roadway Impact Fee Credit

Chapter 395 of the Texas Local Government Code requires the Capital Improvement Plan for Roadway Impact Fees contain specific enumeration of a plan for awarding the impact fee credit. Section 395.014 of the Code states:

"(7) A plan for awarding:

(A) a credit for the portion of ad valorem tax and utility service revenues generated by new service units during the program period that is used for the payment of improvements, including the payment of debt, that are included in the capital improvements plan; or

(B) In the alternative, a credit equal to 50 percent of the total projected cost of implementing the capital improvements plan…"

The plan following 395.014(7)(A) is summarized, as prepared by NewGen Strategies, in Appendix D and E, Plan for Awarding the Roadway Impact Fee Credit. The following table summarizes the portions of Table 7 that utilize this credit calculation.

Line	Title	Description
12	*Financing Costs*	(from Appendix D – Plan for Awarding the Roadway Impact Fee Credit)
13	*Interest Earnings*	(from Appendix D – Plan for Awarding the Roadway Impact Fee Credit)
14	*Cost of the CIP and Financing Attributable to New Growth*	The sum of the Cost of Capacity Added Attributable to New Growth, Financing Costs, and Interest Earnings. (Line 11 + Line 12 + Line 13)
15	*Pre-Credit Maximum Fee Per Service Unit*	Found by dividing the Cost of the CIP and Financing Attributable to New Growth (Line 14) by the Total Vehicle-Miles of New Demand Over Ten Years (Line 8). (Line 14 / Line 8)
16	*Credit for Ad Valorem Taxes*	A credit for the portion of ad valorem taxes projected to be generated by the new service units, as per Section 395.014 of the Local Government Code. (from Appendix D – Plan for Awarding the Roadway Impact Fee Credit)
17	*Recoverable Cost of CIP and Financing*	The difference between the Cost of the CIP and Financing Attributable to New Growth (Line 14) and the Credit for Ad Valorem Taxes (Line 16). (Line 14 + Line 16)
18	*Maximum Assessable Fee Per Service Unit*	Found by dividing the Recoverable Cost of the CIP and Financing (Line 17) by the Total Vehicle-Miles of New Demand Over Ten Years (Line 8). (Line 17 / Line 8)

Table 8. Maximum Assessable Roadway Impact Fee

	SERVICE AREA:	A	B	C
1	TOTAL VEH-MI OF CAPACITY ADDED BY THE CIP (FROM CIP UNITS OF SUPPLY, **APPENDIX B)**	40,792	5,645	16,352
2	TOTAL VEH-MI OF EXISTING DEMAND (FROM CIP UNITS OF SUPPLY, **APPENDIX B**)	20,744	1,133	0
3	TOTAL VEH-MI OF EXISTING DEFICIENCIES (FROM EXISTING FACILITIES INVENTORY, **APPENDIX C**)	3,329	31	1,244
4	NET AMOUNT OF VEH-MI OF CAPACITY ADDED (LINE 1 - LINE 2 - LINE 3)	16,719	4,481	15,108
5	TOTAL COST OF THE CIP WITHIN SERVICE AREA (FROM **TABLE 4)**	$ 54,180,844	$ 17,564,775	$ 98,374,500
6	COST OF NET CAPACITY SUPPLIED (LINE 4 / LINE 1) * (LINE 5)	$ 22,206,549	$ 13,942,915	$ 90,890,530
7	COST TO MEET EXISTING NEEDS AND USAGE (LINE 5 - LINE 6)	$ 31,974,295	$ 3,621,860	$ 7,483,970
8	TOTAL VEH-MI OF NEW DEMAND OVER TEN YEARS (FROM **TABLE 6** and **Land Use Assumptions**)	39,780	1,045	32,714
9	PERCENT OF CAPACITY ADDED ATTRIBUTABLE TO GROWTH (LINE 8 / LINE 4)	237.9%	23.3%	216.5%
10	IF LINE 8 > LINE 4, REDUCE LINE 9 TO 100%, OTHERWISE NO CHANGE	100.0%	23.3%	100.0%
11	COST OF CAPACITY ADDED ATTRIBUTABLE TO GROWTH (LINE 6 * LINE 10)	$ 22,206,549	$ 3,248,699	$ 90,890,530
12	FINANCING COSTS (FROM **APPENDIX D**)	$ 2,660,377	$ 717,918	$ 21,232,053
13	INTEREST EARNINGS (FROM **APPENDIX D**)	$ (115,159)	$ (91,866)	$ (2,746,439)
14	COST OF CIP AND FINANCING ATTRIBUTABLE TO GROWTH (LINE 11 + LINE 12 + LINE 13)	$ 24,751,766	$ 3,874,751	$ 109,376,144
15	PRE-CREDIT MAX FEE PER SERVICE UNIT ($ PER VEH-MI) (LINE 14 / LINE 8)	$ 622	$ 3,708	$ 3,343
16	CREDIT FOR AD VALOREM TAXES (FROM **APPENDIX D**)	$ (540,978)	$ (1,984)	$ (1,614,052)
17	RECOVERABLE COST OF CIP AND FINANCING (LINE 14 + LINE 16)	$ 24,210,788	$ 3,872,766	$ 107,762,092
18	MAX ASSESSABLE FEE PER SERVICE UNIT ($ PER VEH-MI) (LINE 17 / LINE 8)	$ 609	$ 3,706	$ 3,294

B. Service Unit Demand Per Unit of Development

The Roadway Impact Fee is determined by multiplying the impact fee rate by the number of service units projected for the proposed development. For this purpose, the Town utilizes the Land Use/Vehicle-Mile Equivalency Table (LUVMET), presented in Table 9. This table lists the predominant land uses that may occur within the Town of Flower Mound. For each land use, the development unit that defines the development's magnitude with respect to transportation demand is shown. Although every possible use cannot be anticipated, the majority of uses are found in this table. If the exact use is not listed, one similar in trip-making characteristics can serve as a reasonable proxy. The individual land uses are grouped into categories, such as residential, office, commercial, industrial, and institutional.

The trip rates presented for each land use is a fundamental component of the LUVMET. The trip rate is the average number of trips generated during the evening peak hour by each land use per development unit. The next column, if applicable to the land use, presents the number of trips to and from certain land uses reduced by pass-by trips, as previously discussed.

The source of the trip generation and pass-by statistics is ITE's Trip Generation Manual, 10th Edition, the latest edition of the definitive source for trip generation data. This manual utilizes trip generation studies for a variety of land uses throughout the United States, and is the standard used by traffic engineers and transportation planners for traffic impact analysis, site design, and transportation planning.

To convert vehicle trips to vehicle-miles, it is necessary to multiply trips by trip length. The adjusted trip length values are based on the Regional Origin-Destination Travel Survey performed by the North Central Texas Council of Governments (NCTCOG). The other adjustment to trip length is the 50% origin-destination reduction to avoid double counting of trips. At this stage, another important aspect of the state law is applied – the limit on transportation service unit demand. If the adjusted trip length is above six (6) miles, the maximum trip length used for calculation is reduced to six (6) miles. This reduction, as discussed previously, limits the maximum trip length to the approximate size of the service areas.

The remaining column in the LUVMET shows the vehicle-miles per development unit. This number is the product of the trip rate and the maximum trip length. This number, previously referred to as the Transportation Demand Factor, is used in the impact fee estimate to compute the number of service units attributed to each land use category. The number of service units is multiplied by the impact fee rate (established by Town ordinance) in order to determine the impact fee for a development.

Table 9. Land Use / Vehicle-Mile Equivalency Table (LUVMET)

Land Use Category	ITE Land Use Code	Development Unit	Trip Gen Rate (PM)	Pass-by Rate	Pass-by Source	Trip Rate	Trip Length (mi)	Adj. For O-D	Adj. Trip Length (mi)	Max Trip Length (mi)	Veh-Mi Per Dev. Unit
INDUSTRIAL											
General Light Industrial	110	1,000 SF GFA	0.63			0.63	10.02	50%	5.01	5.01	3.16
Industrial Park	130	1,000 SF GFA	0.40			0.40	10.02	50%	5.01	5.01	2.00
Warehousing	150	1,000 SF GFA	0.19			0.19	10.02	50%	5.01	5.01	0.95
Mini-Warehouse	151	1,000 SF GFA	0.17			0.17	10.02	50%	5.01	5.01	0.85
RESIDENTIAL											
Single-Family Detached Housing	210	Dwelling Unit	0.99			0.99	9.79	50%	4.90	4.90	4.85
Townhomes	220	Dwelling Unit	0.56			0.56	9.79	50%	4.90	4.90	2.74
Multi-family Housing (Apartment/Condominium)	220	Dwelling Unit	0.56			0.56	9.79	50%	4.90	4.90	2.74
Senior Adult Housing-Detached	251	Dwelling Unit	0.30			0.30	9.79	50%	4.90	4.90	1.47
Senior Adult Housing-Attached	252	Dwelling Unit	0.26			0.26	9.79	50%	4.90	4.90	1.27
Assisted Living	254	Beds	0.26			0.26	9.79	50%	4.90	4.90	1.27
LODGING											
Hotel	310	Room	0.60			0.60	6.43	50%	3.22	3.22	1.93
Motel / Other Lodging Facilities	320	Room	0.38			0.38	6.43	50%	3.22	3.22	1.22
RECREATIONAL											
Golf Course	430	Acre	0.28			0.28	7.86	50%	3.93	3.93	1.10
Miniature Golf Course	431	Hole	0.33			0.33	7.86	50%	3.93	3.93	1.30
Golf Driving Range	432	Tee	1.25			1.25	7.86	50%	3.93	3.93	4.91
Multiplex Movie Theater	445	Screens	13.73			13.73	15.77	50%	7.89	6.00	82.38
Ice Skating Rink	465	1,000 SF GFA	1.33			1.33	7.86	50%	3.93	3.93	5.23
Racquet / Tennis Club	491	Court	3.82			3.82	7.86	50%	3.93	3.93	15.01
Recreational Community Center	495	1,000 SF GFA	2.31			2.31	7.86	50%	3.93	3.93	9.08
INSTITUTIONAL											
Church	560	1,000 SF GFA	0.49			0.49	8.31	50%	4.16	4.16	2.04
Day Care Center	565	1,000 SF GFA	11.12	44%	B	6.23	3.49	50%	1.75	1.75	10.87
Primary/Middle School (1-8)	522	Students	0.17			0.17	3.49	50%	1.75	1.75	0.30
High School	530	Students	0.14			0.14	3.49	50%	1.75	1.75	0.24
Junior / Community College	540	Students	0.11			0.11	10.44	50%	5.22	5.22	0.57
University / College	550	Students	0.15			0.15	10.44	50%	5.22	5.22	0.78
MEDICAL											
Clinic	630	1,000 SF GFA	3.28			3.28	9.85	50%	4.93	4.93	16.15
Hospital	610	1,000 SF GFA	0.97			0.97	9.85	50%	4.93	4.93	4.78
Nursing Home	620	Beds	0.22			0.22	9.85	50%	4.93	4.93	1.08
Animal Hospital/Veterinary Clinic	640	1,000 SF GFA	3.53	30%	B	2.47	9.85	50%	4.93	4.93	12.16
OFFICE											
Corporate Headquarters Building	714	1,000 SF GFA	0.60			0.60	14.65	50%	7.33	6.00	3.60
General Office Building	710	1,000 SF GFA	1.15			1.15	14.65	50%	7.33	6.00	6.90
Medical-Dental Office Building	720	1,000 SF GFA	3.46			3.46	9.85	50%	4.93	4.93	17.04
Single Tenant Office Building	715	1,000 SF GFA	1.71			1.71	14.65	50%	7.33	6.00	10.26
Office Park	750	1,000 SF GFA	1.07			1.07	14.65	50%	7.33	6.00	6.42

Key to Sources of Pass-by Rates:

A: ITE Trip Generation Handbook 3rd Edition (September 2017)

B: Estimated by Kimley-Horn based on ITE rates for similar categories

C: ITE rate adjusted upward by KHA based on logical relationship to other categories

Table **9 Cont'd**. Land Use / Vehicle-Mile Equivalency Table (LUVMET)

Land Use Category	ITE Land Use Code	Development Unit	Trip Gen Rate (PM)	Pass-by Rate	Pass-by Source	Trip Rate	Trip Length (mi)	Adj. For O-D	Adj. Trip Length (mi)	Max Trip Length (mi)	Veh-Mi Per Dev Unit
COMMERCIAL											
Automobile Related											
Automobile Care Center	942	1,000 SF GFA	3.11	40%	B	1.87	4.45	50%	2.23	2.23	4.15
Automobile Parts Sales	843	1,000 SF GFA	4.91	43%	A	2.80	4.45	50%	2.23	2.23	6.23
Gasoline/Service Station	944	Vehicle Fueling Position	14.03	42%	A	8.14	1.20	50%	0.60	0.60	4.88
Gasoline/Service Station w/ Conv Market	945	Vehicle Fueling Position	13.99	56%	B	6.16	1.20	50%	0.60	0.60	3.69
New Car Sales	840	1,000 SF GFA	2.43	20%	B	1.94	5.60	50%	2.80	2.80	5.44
Quick Lubrication Vehicle Shop	941	Servicing Positions	4.85	40%	B	2.91	4.45	50%	2.23	2.23	6.47
Automated Car Wash	948	1,000 SF GFA	5.08	40%	B	3.05	1.20	50%	0.60	0.60	1.83
Tire Store	848	1,000 SF GFA	3.98	28%	A	2.87	4.45	50%	2.23	2.23	6.38
Dining											
Fast Food Restaurant with Drive-Thru Window	934	1,000 SF GFA	32.67	50%	A	16.34	5.64	50%	2.82	2.82	46.06
Fast Food Restaurant without Drive-Thru Window	933	1,000 SF GFA	28.34	50%	B	14.17	5.64	50%	2.82	2.82	39.96
High Turnover (Sit-Down) Restaurant	932	1,000 SF GFA	9.77	43%	A	5.57	5.64	50%	2.82	2.82	15.70
Quality Restaurant	931	1,000 SF GFA	7.80	44%	A	4.37	5.64	50%	2.82	2.82	12.32
Coffee/Donut Shop with Drive-Thru Window	937	1,000 SF GFA	43.38	70%	A	13.01	5.64	50%	2.82	2.82	36.70
Other Retail											
Free-Standing Discount Store	815	1,000 SF GFA	4.83	30%	C	3.38	5.60	50%	2.80	2.80	9.47
Nursery (Garden Center)	817	1,000 SF GFA	6.94	30%	B	4.86	5.60	50%	2.80	2.80	13.60
Home Improvement Superstore	862	1,000 SF GFA	2.33	42%	A	1.35	5.60	50%	2.80	2.80	3.78
Pharmacy/Drugstore w/o Drive-Thru Window	880	1,000 SF GFA	8.51	53%	A	4.00	5.60	50%	2.80	2.80	11.20
Pharmacy/Drugstore w/ Drive-Thru Window	881	1,000 SF GFA	10.29	49%	A	5.25	5.60	50%	2.80	2.80	14.69
Shopping Center	820	1,000 SF GFA	3.81	34%	A	2.51	5.60	50%	2.80	2.80	7.04
Supermarket	850	1,000 SF GFA	9.24	36%	A	5.91	5.60	50%	2.80	2.80	16.56
SERVICES											
Walk-In Bank	911	1,000 SF GFA	12.13	40%	B	7.28	4.45	50%	2.23	2.23	16.19
Drive-In Bank	912	Drive-in Lanes	27.15	35%	A	17.65	4.45	50%	2.23	2.23	39.27

Key to Sources of Pass-by Rates:

A: ITE Trip Generation Handbook 3rd Edition (September 2017)

B: Estimated by Kimley-Horn based on ITE rates for similar categories

C: ITE rate adjusted upward by KHA based on logical relationship to other categories

Table 10. Land Use Descriptions

Land Use Category	ITE Land Use Code	Land Use Description	Development Unit
INDUSTRIAL			
General Light Industrial	110	Emphasis on activities other than manufacturing; typically employing fewer than 500 workers	1,000 SF GFA
Industrial Park	130	Area containing a number of industries or related facilities	1,000 SF GFA
Warehousing	150	Devoted to storage of materials but may have included office and maintenance areas	1,000 SF GFA
Mini-Warehouse	151	Facilities with a number of units rented to others for the storage of goods	1,000 SF GFA
RESIDENTIAL			
Single-Family Detached Housing	210	Single-family detached homes on individual lots	Dwelling Unit
Townhomes	220	Single-family attached homes on individual lots	
Multi-family Housing (Apartment/Condominium)	220	At least 3 rental dwelling units and one or two levels (floors) per building	Dwelling Unit
Senior Adult Housing-Detached	251	Consists of detached independent living developments that include amenities such as golf courses and swimming pools	Dwelling Unit
Senior Adult Housing-Attached	252	Consists of attached independent living developments that include limited social or recreation services	Dwelling Unit
Assisted Living	254	Residential settings that provide either routine general protective oversight or assistance with activities	Beds
LODGING			
Hotel	310	Lodging facilities that typically have on-site restaurants, lounges, meeting and/or banquet rooms, or other retail shops and services	Room
Motel / Other Lodging Facilities	320	Lodging facilities that may have small on-site restaurant or buffet area but little or no meeting space	Room
RECREATIONAL			
Golf Course	430	May include municipal courses and private country clubs; may have driving ranges, pro shops, and restaurant/banquet facilities	Acre
Miniature Golf Course	431	One or more individual putting courses; category should not be used when part of a larger entertainment center(with batting cages, video game centers, etc)	Hole
Golf Driving Range	432	Facilities with driving tees for practice; may provide individual or group lessons; may have prop shop and/or refreshment facilities	Tee
Multiplex Movie Theater	445	Movie theater with audience seating, minimum of ten screens, lobby, and refreshment area.	Screens
Ice Skating Rink	465	Rinks for ice skating and related sports; may contain spectator areas and refreshment facilities	1,000 SF GFA
Racquet / Tennis Club	491	Indoor or outdoor facilities specifically designed for playing tennis	Court
Recreational Community Center	495	Category includes racquet clubs, health/fitness clubs, can include facilities such as YMCA's	1,000 SF GFA
INSTITUTIONAL			
Church	560	Churches and houses of worship	1,000 SF GFA
Day Care Center	565	Generally includes facilities for care of pre-school aged children, generally includes classrooms, offices, eating areas, and playgrounds	1,000 SF GFA
Primary/Middle School (1-8)	522	Serves students who have not yet entered high school	Students
High School	530	Serves students who have completed middle or junior high school	Students
Junior / Community College	540	Two-year junior, community or technical colleges	Students
University / College	550	Four-year universities or colleges that may or may not offer graduate programs	Students
MEDICAL			
Clinic	630	Facilities with limited diagnostic and outpatient care	1,000 SF GFA
Hospital	610	Medical and surgical facilities with overnight accommodations	1,000 SF GFA
Nursing Home	620	Rest and convalescent homes with residents who do little or no driving	Beds
Animal Hospital/Veterinary Clinic	640	Rest and convalescent homes with residents who do little or no driving	1,000 SF GFA
OFFICE			
Corporate Headquarters Building	714	Office building housing corporate headquarters of a single company or organization	1,000 SF GFA
General Office Building	710	Office buildings which house multiple tenants	1,000 SF GFA
Medical-Dental Office Building	720	Multi-tenant building with offices for physicians and/or dentists	1,000 SF GFA
Single Tenant Office Building	715	Single tenant office buildings other than corporate headquarters	1,000 SF GFA
Office Park	750	Office buildings (typically low-rise) in a campus setting and served by a common roadway system	1,000 SF GFA

Table 10 **Cont'd**. Land Use Descriptions

Land Use Category	ITE Land Use Code	Land Use Description	Development Unit
COMMERCIAL			
Automobile Related			
Automobile Care Center	942	Automobile repair and servicing including stereo installations and upholstering	1,000 SF GFA
Automobile Parts Sales	843	Retail sale of auto parts but no on-site vehicle repair	1,000 SF GFA
Gasoline/Service Station	944	Gasoline sales without convenience store or car wash; may include repair	Vehicle Fueling Position
Gasoline/Service Station w/ Conv Market	945	Gasoline sales with convenience store where the primary business is gasoline sales	Vehicle Fueling Position
New Car Sales	840	New car dealerships, typically with automobile servicing, part sales, and used car sales	1,000 SF GFA
Quick Lubrication Vehicle Shop	941	Primary business is to perform oil changes and fluid/filter changes with other repair services not provided	Servicing Positions
Automated Car Wash	948	Allows for mechanical cleaning of the exterior of vehicles; manual cleaning and detailing may also take place	1,000 SF GFA
Tire Store	848	Primary business is sales and installation of tires; usually do not have large storage or warehouse area	1,000 SF GFA
Dining			
Fast Food Restaurant with Drive-Thru Window	934	High-turnover fast food restaurant for carry-out and eat-in customers with a drive-thru window	1,000 SF GFA
Fast Food Restaurant without Drive-Thru Window	933	High-turnover fast food restaurant for carry-out and eat-in customers, but without a drive-thru window	1,000 SF GFA
High Turnover (Sit-Down) Restaurant	932	Restaurants with turnover rates less than one hour; typically includes moderately-priced chain restaurants	1,000 SF GFA
Quality Restaurant	931	Restaurants with turnover rates of one hour or longer; typically require reservations	1,000 SF GFA
Coffee/Donut Shop with Drive-Thru Window	937	Coffee and Donut restaurants with drive-through windows, hold long store hours and have limited indoor seating	1,000 SF GFA
Other Retail			
Free-Standing Discount Store	815	Category includes free-standing stores with off-street parking; typically offer a variety of products and services with long store hours	1,000 SF GFA
Nursery (Garden Center)	817	Building with a yard of planting or landscape stock; may have office, storage, shipping or greenhouse facilities	1,000 SF GFA
Home Improvement Superstore	862	Warehouse-type facilities offering a large variety of products and services including lumber, tool, paint, lighting, and fixtures, among other items.	1,000 SF GFA
Pharmacy/Drugstore w/o Drive-Thru Window	880	Facilities that primarily sell prescription and non-prescription drugs without a drive-through window	1,000 SF GFA
Pharmacy/Drugstore w/ Drive-Thru Window	881	Facilities that primarily sell prescription and non-prescription drugs with a drive-through window	1,000 SF GFA
Shopping Center	820	Integrated group of commercial establishments; planning, owned, and managed as a unit	1,000 SF GFA
Supermarket	850	Primary business is sale of groceries, food, and household cleaning items; may include photo, pharmacy, video rental, and/or ATM	1,000 SF GFA
SERVICES			
Walk-In Bank	911	Banks with their own parking lots, no drive-in lanes but contain non-drive-through ATMs	1,000 SF GFA
Drive-In Bank	912	Banking facilities to conduct financial transactions from the vehicle; also usually a part of a walk-in bank	Drive-in Lanes

V. Sample Calculations

The following section details two (2) examples of maximum assessable Roadway Impact Fee calculations.

Example 1:
Development Type - One (1) Unit of Single-Family Housing in Service Area A

Roadway Impact Fee Calculation Steps – Example 1	
Step 1	Determine Development Unit and Vehicle-Miles Per Development Unit
	From Table 10 [Land Use – Vehicle-mile Equivalency Table] Development Type: 1 Dwelling Unit of Single-Family Detached Housing Number of Development Units: 1 Dwelling Unit Veh-Mi Per Development Unit: 4.85
Step 2	Determine Maximum Assessable Impact Fee Per Service Unit
	From Table 8, Line 20 [Maximum Assessable Fee Per Service Unit] Service Area A: $609
Step 3	Determine Maximum Assessable Impact Fee
	Impact Fee = # of Development Units * Veh-Mi Per Dev Unit * Max. Fee Per Service Unit Impact Fee = 1 * 4.85 * $609 Maximum Assessable Impact Fee = $2,954

Example 2:
Development Type – 125,000 square foot Home Improvement Superstore in Service Area C

Roadway Impact Fee Calculation Steps – Example 2	
Step 1	Determine Development Unit and Vehicle-Miles Per Development Unit
	From Table 10 [Land Use – Vehicle-mile Equivalency Table] Development Type: 125,000 square feet of Home Improvement Superstore Development Unit: 1,000 square feet of Gross Floor Area Veh-Mi Per Development Unit: 3.78
Step 2	Determine Maximum Assessable Impact Fee Per Service Unit
	From Table 8, Line 20 [Maximum Assessable Fee Per Service Unit] Service Area C: $3,294
Step 3	Determine Maximum Assessable Impact Fee
	Impact Fee = # of Development Units * Veh-Mi Per Dev Unit * Max. Fee Per Service Unit Impact Fee = 125 * 3.78 * $3,294 Maximum Assessable Impact Fee = $1,556,415

VI. Conclusion

The Town of Flower Mound has established a process to implement the assessment and collection of roadway impact fees through the adoption of an impact fee ordinance that is consistent with Chapter 395 of the Texas Local Government Code.

This report establishes the maximum allowable roadway impact fee that could be assessed by the Town of Flower Mound within each of the three (3) service areas. The maximum assessable roadway impact fees calculated in this report are presented in the table below:

Service Areas	A	B	C
2020 Roadway Impact Fee Study Maximum Assessible Fee Per Vehicle-Mile	$609	$3,706	$3,294

This document serves as a guide to the assessment of roadway impact fees pertaining to future development and the Town's need for roadway improvements to accommodate that growth. Following the public hearing process, the Town Council may establish an amount to be assessed (if any) up to the maximum established within this report and update the Roadway Impact Fee Ordinance accordingly.

In conclusion, it is our opinion that the data and methodology used in this update are appropriate and consistent with Chapter 395 of the Texas Local Government Code. Furthermore, the Land Use Assumptions and the proposed Capital Improvement Plan are appropriately incorporated into the process.

VII. APPENDICES

A. Conceptual Level Project Cost Projections

SERVICE AREA A
SERVICE AREA B
SERVICE AREA C

B. CIP Service Units of Supply

C. Existing Roadway Facilities Inventory

D. Plan For Awarding the Roadway Impact Fee Credit Summary

E. Plan For Awarding the Roadway Impact Fee Credit Supporting Exhibits

A. Conceptual Level Project Cost Projections

Town of Flower Mound - 2020 Roadway Impact Fee Update

Capital Improvement Plan for Roadway Impact Fees

Appendix A - Summary of Conceptual Level Project Cost Projections

Roadway Improvements - Service Area A

#	Class	Project	Limits	Status	Project Cost
A-1	UMAD	Aberdeen Dr	FM 2499 (Long Prairie Rd) to 1340' N of Spinks Rd	Widening	$ 1,454,821
A-2	UMAD	Aberdeen Dr	1340' N of Spinks Rd to 700' N of Spinks Rd	Widening	$ 636,000
A-3	UMAU	Chinn Chapel Rd	FM 407 (Justin Rd) to Waketon Rd	Completed	$ 2,728,803
A-4	UMAD	Dixon Ln	Chinn Chapel Rd to Crestside Dr	Completed	$ 5,297,438
A-5	UMAU	Duncan Ln	Honeysuckle Way to Spinks Rd	Widening	$ 562,532
A-6	UMAU	Firewheel Dr	515' S of FM 1171 to 140' S of Hearthstone Dr	Completed	$ 603,525
A-7	P6D	FM 2499 (Long Prairie Rd)	FM 1171 (Cross Timbers) to Spinks Rd	Completed	$ 1,515,721
A-8	GUA	Garden Ridge Blvd	Bellaire Blvd to Forest Vista Dr	Completed	$ 1,146,031
A-9	GUA	Garden Ridge Blvd	FM 3040 to Spinks Rd	Completed	$ 1,891,126
A-10	GUA	Garden Ridge Blvd	Spinks Rd to Lakeside Pkwy	Completed	$ 2,504,704
A-11	UC	Kirkpatrick Ln	Morriss Rd to Kirkpatrick Ln	Completed	$ 3,794,884
A-12	UMAD	Kirkpatrick Ln	Spanish Oak Dr to 1310' W of Garden Ridge Blvd	New	$ 5,243,000
A-13	UC	Lake Forest Blvd	75' S of Lincoln Ct to Foxborough Trail	Completed	$ 1,400,601
A-14	P6D	Lakeside Pkwy	FM 2499 (Long Prairie Rd) to Gerault Rd	Widening	$ 4,375,554
A-15	P6D	Lakeside Pkwy	Gerault Rd to Garden Ridge Blvd	Widening	$ 2,018,856
A-16	P6D	Lakeside Pkwy	Garden Ridge Blvd to South Town Limit	Widening	$ 2,145,590
A-17	UMAD	Morriss Rd	Mandarin Way to Flower Mound Rd	Widening	$ 1,009,492
A-18	UC	Sagebrush Dr	Old Settlers Rd to FM 2499 (Long Prairie Rd)	Completed	$ 3,209,771
A-19,B-6	UMAU	Simmons Rd	Wichita Trail to McKamy Creek Rd	Completed	$ 1,128,789
A-20	UMAD	Spinks Rd	Aberdeen Dr to Gerault Rd	Completed	$ 448,253
A-21	UMAD	Spinks Rd	Gerault Rd to Garden Ridge Blvd	Completed	$ 968,297
A-22	UMAU	Timber Creek Rd	445' S of Glenn Hollow Ln to Kirkpatrick Ln	Completed	$ 690,850
A-23	UC	Waketon/College Connector	Waketon Rd to College Pkwy	New	$ 1,353,000
A-24	UC	Windsor Dr	Amy Ln to FM 2499 (Long Prairie Rd)	Completed	$ 1,058,867
A-25	UC	Yucca Dr	440' E of FM 2499 to 460' S of FM 1171	Completed	$ 214,416

Signal Installation And Intersection Improvements

S-1		Intersection	College Pkwy. at Timber Creek Rd.	Proposed	$ 275,000
S-2		Intersection	Bruton Orand Blvd. at Quail Run Rd.	Proposed	$ 275,000
S-3		Intersection	Churchill Dr. at Peters Colony Rd.	Proposed	$ 990,000
S-4		Intersection	Cross Timbers Rd. at Forums Dr.	Completed	$ 179,000
S-5		Intersection	Garden Ridge Blvd. at Kirkpatrick Ln.	Proposed	$ 275,000
S-6		Intersection	FM 2499 (Long Prairie Rd.) at Chaparral Ln.	In Design	$ 375,000
S-7		Intersection	Garden Ridge Blvd. at Forest Vista Rd.	Proposed	$ 275,000
S-8		Intersection	FM 2499 (Long Prairie Rd.) at Northshore Blvd.	Proposed	$ 275,000
S-9		Intersection	FM 2499 (Long Prairie Rd.) at Aberdeen Dr.	Completed	$ 380,000
S-10		Intersection	Lakeside Pkwy. at Silveron Blvd.	Proposed	$ 275,000
S-11		Intersection	FM 2499 (Long Prairie Rd.) at Silveron Blvd.	Completed	$ 390,000
S-12		Intersection	Gerault Rd. at Old Gerault Rd.	Proposed	$ 275,000
S-13		Intersection	Lakeside Pkwy. at Enterprise Dr.	Proposed	$ 275,000
I - 1		Intersection Improvement	Dixon Ln. at Morriss Rd.	Proposed	$ 375,000
I - 2		Right-turn lane - all directions	FM 2499 (Long Prairie Rd.) at Waketon Rd.	In Design	$ 1,473,000
I - 3		Intersection Improvement	FM 2499 (Long Prairie Rd.) at College Pkwy.	Completed	$ 333,000
I - 4		Northbound right-turn lane	Bruton Orand Blvd. at Cross Timbers Rd.	In Design	$ 375,000
I - 5		Intersection Improvement	Cross Timbers Rd. at Auburn Dr.	Proposed	$ 375,000
I - 6		Westbound right-turn lane	Cross Timbers Rd. at FM 2499 (Long Prairie Rd.)	In Design	$ 492,000
I - 7		Intersection Improvement	Flower Mound Rd. at McKamy Creek Rd.	Completed	$ 336,000
I - 8		Second left-turn lane, EB and SB	Flower Mound Rd. at FM 2499 (Long Prairie Rd.)	Proposed	$ 460,000
I - 9		Intersection Improvement	Flower Mound Rd. at Garden Ridge Blvd.	Proposed	$ 375,000
I - 10		Intersection Improvement	FM 2499 (Long Prairie Rd.) at Lakeside Pkwy.	Proposed	$ 375,000
I-11		Intersection Improvement	Lakeside Pkwy. At Gerault Rd.	Proposed	$ 375,000

TOTAL $ 57,258,921

Town of Flower Mound

2020 Roadway Impact Fee Update

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated: 10/30/2020

Project Information:		**Description:**	**Project No.**	**A-1**
Name:	Aberdeen Dr	**This project consists of the widening of the existing two-lane concrete facility into a four-lane divided Urban Minor Arterial. The Town's anticipated contribution is $1,455,000.**		
Limits:	FM 2499 (Long Prairie Rd) to 1340' N of Spinks Rd			
Impact Fee Class:	UMAD (1/2)			
Ultimate Class:	UMAD			
Length (lf):	2,545			
Service Area(s):	A			

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Contribution to Construction Cost:		-	**$ 1,459,821**
Non-Recoverable Funds:	$5,000 Escrow		$ (5,000)
Engineering/Survey/Testing:			
ROW/Easement Acquisition:			
		Impact Fee Project Cost TOTAL:	**$ 1,454,821**

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the Town of Flower Mound.

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Town of Flower Mound

2020 Roadway Impact Fee Update

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated: 10/30/2020

Project Information:		**Description:**	**Project No.**	**A-2**
Name:	Aberdeen Dr	**This project consists of the widening of the existing two-lane concrete facility into a four-lane divided Urban Minor Arterial.**		
Limits:	1340' N of Spinks Rd to 700' N of Spinks Rd			
Impact Fee Class:	UMAD (1/2)			
Ultimate Class:	UMAD			
Length (lf):	655			
Service Area(s):	A			

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
112	Unclassified Street Excavation	946	CY	$ 27.00	$ 25,545
212	10" Lime Stabilization	2,038	SY	$ 15.00	$ 30,567
312	8" Reinforced Concrete	1,892	SY	$ 73.00	$ 138,132
412	Block Sod with 4" Topsoil (with sidewalk)	509	SY	$ 10.00	$ 5,094
512	4' Sidewalk	2,620	SF	$ 8.00	$ 20,960
				Paving Construction Cost Subtotal:	**$ 220,298**

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
√	Prep ROW		5%	$ 11,015
√	Traffic Control	Construction Phase Traffic Control	15%	$ 33,045
√	Pavement Markings/Markers		5%	$ 11,015
√	Roadway Drainage	Standard Internal System	35%	$ 77,104
	Special Drainage Structures	None Anticipated	$0	$ -
√	Water	Minor Adjustments	5%	$ 11,015
√	Sewer	Minor Adjustments	5%	$ 11,015
√	Establish Turf / Erosion Control		2%	$ 4,406
√	Illumination	Standard Ilumination System	6%	$ 13,218
	Other:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 171,833**
			Paving and Allowance Subtotal:	**$ 392,131**
			Construction Contingency: 15%	$ 58,820
			Construction Cost TOTAL:	**$ 451,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 451,000**
Engineering/Survey/Testing:		20%	$ 90,200
Mobilization		6%	$ 27,060
ROW/Easement Acquisition:	Existing Alignment	15%	$ 67,650
		Impact Fee Project Cost TOTAL:	**$ 636,000**

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Town of Flower Mound

2020 Roadway Impact Fee Update

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated: 10/30/2020

Project Information:		**Description:**	**Project No.**	**A-3**
Name:	Chinn Chapel Rd	**This project consisted of the construction a new four-lane undivided Urban Minor Arterial. The Town of Flower Mound contributed $2,729,000 to this project.**		
Limits:	FM 407 (Justin Rd) to Waketon Rd			
Impact Fee Class:	UMAU			
Ultimate Class:	UMAU			
Length (lf):	3,460			
Service Area(s):	A			

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Contribution to Construction Cost:		-	**$ 2,728,803**
Non-Recoverable Funds:			
Engineering/Survey/Testing:			
ROW/Easement Acquisition:			
		Impact Fee Project Cost TOTAL:	**$ 2,728,803**

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Town of Flower Mound

2020 Roadway Impact Fee Update

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated: 10/30/2020

Project Information:		**Description:**	**Project No.**	**A-4**
Name:	Dixon Ln	**This project consisted of the construction a new four-lane divided Urban Minor Arterial. The Town contributed $5,297,000 to this project.**		
Limits:	Chinn Chapel Rd to Crestside Dr			
Impact Fee Class:	UC			
Ultimate Class:	UMAD			
Length (lf):	6,520			
Service Area(s):	A			

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Contribution to Construction Cost:		-	**$ 5,689,141**
Non-Recoverable Funds:	$391,703 Escrow		$ (391,703)
Engineering/Survey/Testing:			
ROW/Easement Acquisition:			
		Impact Fee Project Cost TOTAL:	**$ 5,297,438**

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Town of Flower Mound

2020 Roadway Impact Fee Update

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated: 10/30/2020

Project Information:		**Description:**	**Project No.**	**A-5**
Name:	Duncan Ln	**This project consists of the widening of the existing two-lane concrete facility into a four-lane undivided Urban Minor Arterial. The Town's contribution was 563,000.**		
Limits:	Honeysuckle Way to Spinks Rd			
Impact Fee Class:	UMAD			
Ultimate Class:	UMAU			
Length (lf):	1,990			
Service Area(s):	A			

Impact Fee Project Cost Summary			
Item Description	**Notes:**	**Allowance**	**Item Cost**
Contribution to Construction Cost:		-	**$ 751,744**
Non-Recoverable Funds:	$189,212 RTR		$ (189,212)
Engineering/Survey/Testing:			
ROW/Easement Acquisition:			
		Impact Fee Project Cost TOTAL:	**$ 562,532**

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Town of Flower Mound

2020 Roadway Impact Fee Update

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated: 10/30/2020

Project Information:		**Description:**	**Project No.**	**A-6**
Name:	Firewheel Dr	**This project consisted of the construction of the easternmost two lanes to complete the ultimate four-lane concrete undivided Urban Minor Arterial. The Town's contribution was $604,000.**		
Limits:	515' S of FM 1171 to 140' S of Hearthstone Dr			
Impact Fee Class:	UMAU (1/2)			
Ultimate Class:	UMAU			
Length (lf):	1,290			
Service Area(s):	A			

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Contribution to Construction Cost:		-	**$ 603,525**
Non-Recoverable Funds:			
Engineering/Survey/Testing:			
ROW/Easement Acquisition:			
		Impact Fee Project Cost TOTAL:	**$ 603,525**

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Town of Flower Mound

2020 Roadway Impact Fee Update

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated: 10/30/2020

Project Information:		**Description:**	**Project No.**	**A-7**
Name:	FM 2499 (Long Prairie Rd)	**This TxDOT project consisted of the construction of the two additional through lanes within the existing median. The Town's contribution was $1,516,000.**		
Limits:	FM 1171 (Cross Timbers) to Spinks Rd			
Impact Fee Class:	UMAU (1/2)			
Ultimate Class:	P6D			
Length (lf):	14,410			
Service Area(s):	A			

Impact Fee Project Cost Summary			
Item Description	**Notes:**	**Allowance**	**Item Cost**
Contribution to Construction Cost:		-	**$ 1,515,721**
Non-Recoverable Funds:			
Engineering/Survey/Testing:			
ROW/Easement Acquisition:			
		Impact Fee Project Cost TOTAL:	**$ 1,515,721**

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Town of Flower Mound

2020 Roadway Impact Fee Update

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated: 10/30/2020

Project Information:		**Description:**	**Project No.**	**A-8**
Name:	Garden Ridge Blvd	**This project consisted of the construction of half of a new Greenway Urban Arterial. The easternmost half is within the City of Lewisville. The Town's contribution was $1,146,000. The remaining funds come from other sources.**		
Limits:	Bellaire Blvd to Forest Vista Dr			
Impact Fee Class:	P6D (1/3)			
Ultimate Class:	GUA			
Length (lf):	4,290			
Service Area(s):	A			

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Contribution to Construction Cost:		-	**$ 6,650,404**
Non-Recoverable Funds:	$5,504,373 Interlocal Funds		$ (5,504,373)
Engineering/Survey/Testing:			
ROW/Easement Acquisition:			
		Impact Fee Project Cost TOTAL:	**$ 1,146,031**

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Town of Flower Mound

2020 Roadway Impact Fee Update

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated: 10/30/2020

Project Information:		**Description:**	**Project No.**	**A-9**
Name:	Garden Ridge Blvd	**This project consisted of the construction of half of a new Greenway Urban Arterial. Note, two lanes from FM 3040 to Somerset exist and are not included in the CIP cost. The Town's contribution was $1,891,000.**		
Limits:	FM 3040 to Spinks Rd			
Impact Fee Class:	GUA (1/2)			
Ultimate Class:	GUA			
Length (lf):	3,945			
Service Area(s):	A			

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Contribution to Construction Cost:		-	**$ 5,534,149**
Non-Recoverable Funds:	$649,377 Interlocal Funds / $2,993,646 RTR Funds		$ (3,643,023)
Engineering/Survey/Testing:			
ROW/Easement Acquisition:			
		Impact Fee Project Cost TOTAL:	**$ 1,891,126**

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Town of Flower Mound

2020 Roadway Impact Fee Update

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated: 10/30/2020

Project Information:		**Description:**	**Project No.**	**A-10**
Name:	Garden Ridge Blvd	**This project consisted of the construction of a new Greenway Urban Arterial. The Town's contribution was $2,505,000.**		
Limits:	Spinks Rd to Lakeside Pkwy			
Impact Fee Class:	GUA			
Ultimate Class:	GUA			
Length (lf):	2,240			
Service Area(s):	A			

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Contribution to Construction Cost:		-	**$ 2,504,704**
Non-Recoverable Funds:			
Engineering/Survey/Testing:			
ROW/Easement Acquisition:			
		Impact Fee Project Cost TOTAL:	**$ 2,504,704**

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Town of Flower Mound

2020 Roadway Impact Fee Update

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated: 10/30/2020

Project Information:		**Description:**	**Project No.**	**A-11**
Name:	Kirkpatrick Ln	**This project consisted of the reconstruction of an existing two-lane asphalt facility to a concrete Urban Collector with left-turn lanes at major cross streets. The Town's contribution was $3,795,000.**		
Limits:	Morriss Rd to Kirkpatrick Ln			
Impact Fee Class:	GUA			
Ultimate Class:	UC			
Length (lf):	5,240			
Service Area(s):	A			

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Contribution to Construction Cost:		-	**$ 3,815,000**
Non-Recoverable Funds:	$20,116 Road Escrow		$ (20,116)
Engineering/Survey/Testing:			
ROW/Easement Acquisition:			
		Impact Fee Project Cost TOTAL:	**$ 3,794,884**

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the Town of Flower Mound.

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Town of Flower Mound

2020 Roadway Impact Fee Update

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated: 10/30/2020

Project Information:		**Description:**	**Project No.**	**A-12**
Name:	Kirkpatrick Ln	**This project consists of the construction of a four-lane divided arterial. The project was part of the Denton County '08 Bond Program. The Town's anticipated contribution is $5,243,000.**		
Limits:	Spanish Oak Dr to 1310' W of Garden Ridge Blvd			
Impact Fee Class:	UC			
Ultimate Class:	UMAD			
Length (lf):	2,165			
Service Area(s):	A			

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Contribution to Construction Cost:		-	**$ 8,718,000**
Non-Recoverable Funds:	$3,475,000 RTR		$ (3,475,000)
Engineering/Survey/Testing:			
ROW/Easement Acquisition:			
		Impact Fee Project Cost TOTAL:	**$ 5,243,000**

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Town of Flower Mound

2020 Roadway Impact Fee Update

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated: 10/30/2020

Project Information:		**Description:**	**Project No.**	**A-13**
Name:	Lake Forest Blvd 75' S of Lincoln Ct to Foxborough Trail	**This project consisted of the extension of the Urban Collector. It also includes the drainage structure to accommodate the existing creek. The City's contribution was $1,401,000.**		
Limits:				
Impact Fee Class:	UMAD			
Ultimate Class:	UC			
Length (lf):	810			
Service Area(s):	A			

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Contribution to Construction Cost:		-	**$ 1,400,601**
Non-Recoverable Funds:			
Engineering/Survey/Testing:			
ROW/Easement Acquisition:			
		Impact Fee Project Cost TOTAL:	**$ 1,400,601**

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Town of Flower Mound

2020 Roadway Impact Fee Update

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated: 10/30/2020

Project Information:		**Description:**	**Project No.**	**A-14**
Name:	Lakeside Pkwy	**This project consists of the widening of the existing four-lane concrete facility into a six-lane divided Major Arterial. The Town's anticipated costs are $4,376,000.**		
Limits:	FM 2499 (Long Prairie Rd) to Gerault Rd			
Impact Fee Class:	UC			
Ultimate Class:	P6D			
Length (lf):	5,700			
Service Area(s):	A			

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Contribution to Construction Cost:		-	**$ 4,375,554**
Non-Recoverable Funds:			
Engineering/Survey/Testing:			
ROW/Easement Acquisition:			
		Impact Fee Project Cost TOTAL:	**$ 4,375,554**

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Town of Flower Mound

2020 Roadway Impact Fee Update

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated: 10/30/2020

Project Information:		**Description:**	**Project No.**	**A-15**
Name:	Lakeside Pkwy	**This project consists of the widening of the existing four-lane concrete facility into a six-lane divided Major Arterial. The Town's anticipated costs are $2,019,000.**		
Limits:	Gerault Rd to Garden Ridge Blvd			
Impact Fee Class:	P6D (1/3)			
Ultimate Class:	P6D			
Length (lf):	2,630			
Service Area(s):	A			

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Contribution to Construction Cost:		-	**$ 2,018,856**
Non-Recoverable Funds:			
Engineering/Survey/Testing:			
ROW/Easement Acquisition:			
		Impact Fee Project Cost TOTAL:	**$ 2,018,856**

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Town of Flower Mound

2020 Roadway Impact Fee Update

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated: 10/30/2020

Project Information:		**Description:**	**Project No.**	**A-16**
Name:	Lakeside Pkwy	**This project consists of the widening of the existing four-lane concrete facility into a six-lane divided Major Arterial. The Town's anticipated costs are $2,146,000.**		
Limits:	Garden Ridge Blvd to South Town			
Impact Fee Class:	P6D (1/3)			
Ultimate Class:	P6D			
Length (lf):	2,795			
Service Area(s):	A			

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Contribution to Construction Cost:		-	**$ 2,145,590**
Non-Recoverable Funds:			
Engineering/Survey/Testing:			
ROW/Easement Acquisition:			
		Impact Fee Project Cost TOTAL:	**$ 2,145,590**

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Town of Flower Mound

2020 Roadway Impact Fee Update

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated: 10/30/2020

Project Information:		**Description:**	**Project No.**	**A-17**
Name:	Morriss Rd	**This project consisted of the widening of the existing five-lane concrete facility into a six-lane divided Major Arterial. The Town's contribution was $1,009,000.**		
Limits:	Mandarin Way to Flower Mound Rd			
Impact Fee Class:	P6D (1/3)			
Ultimate Class:	UMAD			
Length (lf):	835			
Service Area(s):	A			

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Contribution to Construction Cost:		-	**$ 1,409,336**
Non-Recoverable Funds:	$399,844 RTR		$ (399,844)
Engineering/Survey/Testing:			
ROW/Easement Acquisition:			
		Impact Fee Project Cost TOTAL:	**$ 1,009,492**

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Town of Flower Mound

2020 Roadway Impact Fee Update

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated: 10/30/2020

Project Information:		**Description:**	**Project No.**	**A-18**
Name:	Sagebrush Dr	**This project consisted of the reconstruction of a two-lane asphalt facility to a concrete Urban Collector. The Town's contribution was $3,210,000.**		
Limits:	Old Settlers Rd to FM 2499 (Long Prairie Rd)			
Impact Fee Class:	P6D (1/6)			
Ultimate Class:	UC			
Length (lf):	2,720			
Service Area(s):	A			

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Contribution to Construction Cost:		-	**$ 3,209,771**
Non-Recoverable Funds:			
Engineering/Survey/Testing:			
ROW/Easement Acquisition:			
		Impact Fee Project Cost TOTAL:	**$ 3,209,771**

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Town of Flower Mound

2020 Roadway Impact Fee Update

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated: 10/30/2020

Project Information:		**Description:**	**Project No.**	**A-19,B-6**
Name:	Simmons Rd	**This project consisted of the reconstruction of an existing two-lane facility as a four-lane undivided Urban Minor Arterial. The Town contributed $1,129,000 to the construction of this facility.**		
Limits:	Wichita Trail to McKamy Creek Rd			
Impact Fee Class:	UMAU			
Ultimate Class:	UMAU			
Length (lf):	2,715			
Service Area(s):	A/B			

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Contribution to Construction Cost:		-	**$ 1,198,860**
Non-Recoverable Funds:	$70,071 Escrow Funds		$ (70,071)
Engineering/Survey/Testing:			
ROW/Easement Acquisition:			
		Impact Fee Project Cost TOTAL:	**$ 1,128,789**

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the Town of Flower Mound.

The planning level cost projections shall not supersede the Town's Design Criteria and Construction Standards in the Code of Ordinances or the determination of the Town Engineer for a specific project.

Town of Flower Mound

2020 Roadway Impact Fee Update

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated: 10/30/2020

Project Information:		**Description:**	**Project No.**	**A-20**
Name:	Spinks Rd	**This project consisted of the construction of a new four-lane divided Urban Minor Arterial. The Town contributed $448,000 to the construction of this facility.**		
Limits:	Aberdeen Dr to Gerault Rd			
Impact Fee Class:	UMAU			
Ultimate Class:	UMAD			
Length (lf):	4,910			
Service Area(s):	A			

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Contribution to Construction Cost:		-	**$ 2,023,037**
Non-Recoverable Funds:	$1,574,784 Interlocal Funds		$ (1,574,784)
Engineering/Survey/Testing:			
ROW/Easement Acquisition:			
		Impact Fee Project Cost TOTAL:	**$ 448,253**

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the Town of Flower Mound.

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Town of Flower Mound

2020 Roadway Impact Fee Update

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated: 10/30/2020

Project Information:		**Description:**	**Project No.**	**A-21**
Name:	Spinks Rd	**This project consisted of the construction of a new four-lane divided Urban Minor Arterial. The Town contributed $968,000 to the construction of this facility.**		
Limits:	Gerault Rd to Garden Ridge Blvd			
Impact Fee Class:	UMAD			
Ultimate Class:	UMAD			
Length (lf):	2,970			
Service Area(s):	A			

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Contribution to Construction Cost:		-	**$ 1,857,999**
Non-Recoverable Funds:	$889,702 Interlocal Funds		$ (889,702)
Engineering/Survey/Testing:			
ROW/Easement Acquisition:			
		Impact Fee Project Cost TOTAL:	**$ 968,297**

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Town of Flower Mound

2020 Roadway Impact Fee Update

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated: 10/30/2020

Project Information:		**Description:**	**Project No.**	**A-22**
Name:	Timber Creek Rd	**This project consisted of the widening of the existing two-lane concrete facility to a four-lane undivided Urban Minor Arterial. The Town contributed $691,000 to the construction of this facility.**		
Limits:	445' S of Glenn Hollow Ln to Kirkpatrick Ln			
Impact Fee Class:	UMAD			
Ultimate Class:	UMAU			
Length (lf):	1,075			
Service Area(s):	A			

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Contribution to Construction Cost:		-	**$ 690,850**
Non-Recoverable Funds:			
Engineering/Survey/Testing:			
ROW/Easement Acquisition:			
		Impact Fee Project Cost TOTAL:	**$ 690,850**

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the Town of Flower Mound.

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Town of Flower Mound

2020 Roadway Impact Fee Update

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated: 10/30/2020

Project Information:		**Description:**	**Project No.**	**A-23**
Name:	Waketon/College Connector	**This project consists of the construction of a concrete two-lane Urban Collector.**		
Limits:	Waketon Rd to College Pkwy			
Impact Fee Class:	UMAU (1/2)			
Ultimate Class:	UC			
Length (lf):	1,415			
Service Area(s):	A			

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
113	Unclassified Street Excavation	1,965	CY	$ 27.00	$ 53,063
213	10" Lime Stabilization	4,088	SY	$ 15.00	$ 61,317
313	8" Reinforced Concrete	3,931	SY	$ 73.00	$ 286,931
413	Block Sod with 4" Topsoil (with sidewalk)	1,572	SY	$ 10.00	$ 15,722
513	4' Sidewalk	5,660	SF	$ 8.00	$ 45,280
				Paving Construction Cost Subtotal:	**$ 462,312**

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
√	Prep ROW		5%	$ 23,116
	Traffic Control	None Anticipated	0%	$ -
√	Pavement Markings/Markers		5%	$ 23,116
√	Roadway Drainage	Standard Internal System	35%	$ 161,809
	Special Drainage Structures	None Anticipated	$0	$ -
√	Water	Minor Adjustments	5%	$ 23,116
√	Sewer	Minor Adjustments	5%	$ 23,116
√	Establish Turf / Erosion Control		2%	$ 9,246
√	Illumination	Standard Ilumination System	6%	$ 27,739
	Other:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 291,257**

Paving and Allowance Subtotal:		**$ 753,568**
Construction Contingency:	15%	$ 113,035
Construction Cost TOTAL:		**$ 867,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 867,000**
Engineering/Survey/Testing:		20%	$ 173,400
Mobilization		6%	$ 52,020
ROW/Easement Acquisition:	New Roadway Alignment	30%	$ 260,100
		Impact Fee Project Cost TOTAL:	**$ 1,353,000**

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the Town of Flower Mound.

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Town of Flower Mound

2020 Roadway Impact Fee Update

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated: 10/30/2020

Project Information:		**Description:**	**Project No.**	**A-24**
Name:	Windsor Dr	**This project consisted of the construction of an Urban Collector. The Town's contribution was $1,059,000 to the construction of this facility.**		
Limits:	Amy Ln to FM 2499 (Long Prairie Rd)			
Impact Fee Class:	UC			
Ultimate Class:	UC			
Length (lf):	3,180			
Service Area(s):	A			

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Contribution to Construction Cost:		-	**$ 4,160,508**
Non-Recoverable Funds:	$520,000 Interlocal / $2,581,641 RTR		$ (3,101,641)
Engineering/Survey/Testing:			
ROW/Easement Acquisition:			
		Impact Fee Project Cost TOTAL:	**$ 1,058,867**

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Town of Flower Mound

2020 Roadway Impact Fee Update

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated: 10/30/2020

Project Information:		**Description:**	**Project No.**	**A-25**
Name:	Yucca Dr 440' E of FM 2499 to 460' S of FM	**This project consisted of the construction of a new Urban Collector. The Town's contribution was $214,000.**		
Limits:	1171			
Impact Fee Class:	UC			
Ultimate Class:	UC			
Length (lf):	410			
Service Area(s):	A			

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Contribution to Construction Cost:		-	**$ 214,416**
Non-Recoverable Funds:			
Engineering/Survey/Testing:			
ROW/Easement Acquisition:			
		Impact Fee Project Cost TOTAL:	**$ 214,416**

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the Town of Flower Mound.

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Town of Flower Mound - 2020 Roadway Impact Fee Update

Capital Improvement Plan for Roadway Impact Fees

Appendix A - Summary of Conceptual Level Project Cost Projections

Roadway Improvements - Service Area B

#	Class	Project	Limits	Status	Project Cost
B-1	UMAD	Flower Mound Rd	FM 1171 (Cross Timbers) to Skillern Rd	Completed	$ 680,380
B-2	RC	Red Rock/Shiloh Connector	Red Rock Ln to Shiloh Rd	New	$ 6,845,000
B-3	RC	Scenic /Flower Mound Connector	Scenic Dr to Alcott Ave	New	$ 3,067,000
B-4	RC	Shiloh Rd/Lusk Ln Connector	2820' E of Shiloh Rd to Lusk Ln	New	$ 3,945,000
B-5	RC	Shiloh Rd/Lusk Ln Connector	Shiloh Rd to 2820' E of Shiloh Rd	New	$ 3,611,000
A-19,B-6	UMAU	Simmons Rd	Wichita Trail to McKamy Creek Rd	Completed	$ 1,128,789

Signal Installation And Intersection Improvements

S-2		Intersection	Bruton Orand Blvd. at Quail Run Rd.	Proposed	$ 275,000
I - 4		Northbound right-turn lane	Bruton Orand Blvd. at Cross Timbers Rd.	In Design	$ 230,000
I-12		Intersection Improvement	Cross Timbers Rd. at Flower Mound Rd.	Proposed	$ 375,000

TOTAL $ 20,157,169

Town of Flower Mound

2020 Roadway Impact Fee Update

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated: 10/30/2020

Project Information:		**Description:**	**Project No.**	**B-1**
Name:	Flower Mound Rd FM 1171 (Cross Timbers) to Skillern Rd	**This project consisted of the reconstruction of an existing two-lane facility to a four-lane divided Urban Minor Arterial. The Town's contribution is $680,000 to the construction of this facility.**		
Limits:				
Impact Fee Class:	UMAD			
Ultimate Class:	UMAD			
Length (lf):	6,370			
Service Area(s):	B			

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Contribution to Construction Cost:		-	**$ 4,451,353**
Non-Recoverable Funds:	$3,770,973 Interlocal Funds		$ (3,770,973)
Engineering/Survey/Testing:			
ROW/Easement Acquisition:			
		Impact Fee Project Cost TOTAL:	**$ 680,380**

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the Town of Flower Mound.

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Town of Flower Mound

2020 Roadway Impact Fee Update

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated: 10/30/2020

Project Information:		**Description:**	**Project No.**	**B-2**
Name:	Red Rock/Shiloh Connector	**This project consists of the construction of a concrete two-lane Rural Collector.**		
Limits:	Red Rock Ln to Shiloh Rd			
Impact Fee Class:	RC			
Ultimate Class:	RC			
Length (lf):	5,345			
Service Area(s):	B			

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
107	Unclassified Street Excavation	10,096	CY	$ 27.00	$ 272,595
207	8" Lime Stabilization	21,380	SY	$ 15.00	$ 320,700
307	8" Reinforced Concrete	20,192	SY	$ 73.00	$ 1,474,032
407	Block Sod with 4" Topsoil (no sidewalk)	27,319	SY	$ 10.00	$ 273,189
507	No Sidewalk	0	SF	$ 8.00	$ -
				Paving Construction Cost Subtotal:	**$ 2,340,516**

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
√	Prep ROW		5%	$ 117,026
	Traffic Control	None Anticipated	0%	$ -
√	Pavement Markings/Markers		5%	$ 117,026
√	Roadway Drainage	Standard Internal System	35%	$ 819,181
	Special Drainage Structures	None Anticipated	$0	$ -
√	Water	Minor Adjustments	5%	$ 117,026
√	Sewer	Minor Adjustments	5%	$ 117,026
√	Establish Turf / Erosion Control		2%	$ 46,810
√	Illumination	Standard Ilumination System	6%	$ 140,431
	Other:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 1,474,525**

Paving and Allowance Subtotal:		**$ 3,815,041**
Construction Contingency:	15%	$ 572,256
Construction Cost TOTAL:		**$ 4,388,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 4,388,000**
Engineering/Survey/Testing:		20%	$ 877,600
Mobilization		6%	$ 263,280
ROW/Easement Acquisition:	New Roadway Alignment	30%	$ 1,316,400
		Impact Fee Project Cost TOTAL:	**$ 6,845,000**

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Town of Flower Mound

2020 Roadway Impact Fee Update

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated: 10/30/2020

Project Information:		**Description:**	**Project No.**	**B-3**
Name:	Scenic /Flower Mound Connector	**This project consists of the construction of a concrete two-lane Rural Collector.**		
Limits:	Scenic Dr to Alcott Ave			
Impact Fee Class:	RC			
Ultimate Class:	RC			
Length (lf):	2,395			
Service Area(s):	B			

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
107	Unclassified Street Excavation	4,524	CY	$ 27.00	$ 122,145
207	8" Lime Stabilization	9,580	SY	$ 15.00	$ 143,700
307	8" Reinforced Concrete	9,048	SY	$ 73.00	$ 660,488
407	Block Sod with 4" Topsoil (no sidewalk)	12,241	SY	$ 10.00	$ 122,411
507	No Sidewalk	0	SF	$ 8.00	$ -
				Paving Construction Cost Subtotal:	**$ 1,048,744**

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
√	Prep ROW		5%	$ 52,437
	Traffic Control	None Anticipated	0%	$ -
√	Pavement Markings/Markers		5%	$ 52,437
√	Roadway Drainage	Standard Internal System	35%	$ 367,060
	Special Drainage Structures	None Anticipated	$0	$ -
√	Water	Minor Adjustments	5%	$ 52,437
√	Sewer	Minor Adjustments	5%	$ 52,437
√	Establish Turf / Erosion Control		2%	$ 20,975
√	Illumination	Standard Ilumination System	6%	$ 62,925
	Other:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 660,709**
			Paving and Allowance Subtotal:	**$ 1,709,453**
			Construction Contingency: 15%	$ 256,418
			Construction Cost TOTAL:	**$ 1,966,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 1,966,000**
Engineering/Survey/Testing:		20%	$ 393,200
Mobilization		6%	$ 117,960
ROW/Easement Acquisition:	New Roadway Alignment	30%	$ 589,800
		Impact Fee Project Cost TOTAL:	**$ 3,067,000**

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Town of Flower Mound

2020 Roadway Impact Fee Update

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated: 10/30/2020

Project Information:		**Description:**	**Project No.**	**B-4**
Name:	Shiloh Rd/Lusk Ln Connector	**This project consists of the construction of a concrete two-lane Rural Collector.**		
Limits:	2820' E of Shiloh Rd to Lusk Ln			
Impact Fee Class:	RC			
Ultimate Class:	RC			
Length (lf):	3,080			
Service Area(s):	B			

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
107	Unclassified Street Excavation	5,818	CY	$ 27.00	$ 157,080
207	8" Lime Stabilization	12,320	SY	$ 15.00	$ 184,800
307	8" Reinforced Concrete	11,636	SY	$ 73.00	$ 849,396
407	Block Sod with 4" Topsoil (no sidewalk)	15,742	SY	$ 10.00	$ 157,422
507	No Sidewalk	0	SF	$ 8.00	$ -
				Paving Construction Cost Subtotal:	**$ 1,348,698**

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
√	Prep ROW		5%	$ 67,435
	Traffic Control	None Anticipated	0%	$ -
√	Pavement Markings/Markers		5%	$ 67,435
√	Roadway Drainage	Standard Internal System	35%	$ 472,044
	Special Drainage Structures	None Anticipated	$0	$ -
√	Water	Minor Adjustments	5%	$ 67,435
√	Sewer	Minor Adjustments	5%	$ 67,435
√	Establish Turf / Erosion Control		2%	$ 26,974
√	Illumination	Standard Ilumination System	6%	$ 80,922
	Other:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 849,680**

Paving and Allowance Subtotal:		**$ 2,198,377**
Construction Contingency:	15%	$ 329,757
Construction Cost TOTAL:		**$ 2,529,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 2,529,000**
Engineering/Survey/Testing:		20%	$ 505,800
Mobilization		6%	$ 151,740
ROW/Easement Acquisition:	New Roadway Alignment	30%	$ 758,700
		Impact Fee Project Cost TOTAL:	**$ 3,945,000**

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the Town of Flower Mound.

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Town of Flower Mound

2020 Roadway Impact Fee Update

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated: 10/30/2020

Project Information:		**Description:**	**Project No.**	**B-5**
Name:	Shiloh Rd/Lusk Ln Connector	**This project consists of the construction of a concrete two-lane Rural Collector.**		
Limits:	Shiloh Rd to 2820' E of Shiloh Rd			
Impact Fee Class:	RC			
Ultimate Class:	RC			
Length (lf):	2,820			
Service Area(s):	B			

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
107	Unclassified Street Excavation	5,327	CY	$ 27.00	$ 143,820
207	8" Lime Stabilization	11,280	SY	$ 15.00	$ 169,200
307	8" Reinforced Concrete	10,653	SY	$ 73.00	$ 777,693
407	Block Sod with 4" Topsoil (no sidewalk)	14,413	SY	$ 10.00	$ 144,133
507	No Sidewalk	0	SF	$ 8.00	$ -
				Paving Construction Cost Subtotal:	**$ 1,234,847**

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
√	Prep ROW		5%	$ 61,742
	Traffic Control	None Anticipated	0%	$ -
√	Pavement Markings/Markers		5%	$ 61,742
√	Roadway Drainage	Standard Internal System	35%	$ 432,196
	Special Drainage Structures	None Anticipated	$0	$ -
√	Water	Minor Adjustments	5%	$ 61,742
√	Sewer	Minor Adjustments	5%	$ 61,742
√	Establish Turf / Erosion Control		2%	$ 24,697
√	Illumination	Standard Ilumination System	6%	$ 74,091
	Other:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 777,953**

Paving and Allowance Subtotal:		**$ 2,012,800**
Construction Contingency:	15%	$ 301,920
Construction Cost TOTAL:		**$ 2,315,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 2,315,000**
Engineering/Survey/Testing:		20%	$ 463,000
Mobilization		6%	$ 138,900
ROW/Easement Acquisition:	New Roadway Alignment	30%	$ 694,500
		Impact Fee Project Cost TOTAL:	**$ 3,611,000**

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the Town of Flower Mound.

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Town of Flower Mound

2020 Roadway Impact Fee Update

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated: 10/30/2020

Project Information:		**Description:**	**Project No.**	**A-19,B-6**
Name:	Simmons Rd	**This project consisted of the reconstruction of an existing two-lane facility to construct a four-lane undivided Urban Minor Arterial. The Town contributed $1,129,000 to the construction of this facility.**		
Limits:	Wichita Trail to McKamy Creek Rd			
Impact Fee Class:	UMAU			
Ultimate Class:	UMAU			
Length (lf):	2,715			
Service Area(s):	A/B			

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Contribution to Construction Cost:		-	**$ 1,198,860**
Non-Recoverable Funds:	$70,071 Escrow Funds		$ (70,071)
Engineering/Survey/Testing:			
ROW/Easement Acquisition:			
		Impact Fee Project Cost TOTAL:	**$ 1,128,789**

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the Town of Flower Mound.

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Town of Flower Mound - 2020 Roadway Impact Fee Update

Capital Improvement Plan for Roadway Impact Fees

Appendix A - Summary of Conceptual Level Project Cost Projections

Roadway Improvements - Service Area C

#	Class	Project	Limits	Status	Project Cost
C-1	RC	CrossTimbers/Dunham Connector	Cross Timbers Rd to Dunham Rd	New	$ 3,483,000
C-2	GRA	CrossTimbers/US 377 Connector1	US 377 to Cross Timbers Rd	New	$ 22,005,000
C-3	RC	CrossTimbers/US 377 Connector2	CrossTimbers/US 377 Connector1 to Cross Timbers R	New	$ 6,090,000
C-4	UMABL	Denton Creek Blvd	IH-35 Diamond Interchange to 120' NW of Prairie Ridge	New	$ 28,014,000
C-5	UMABL	Denton Creek Blvd	Canyon Falls Dr to 1155' S of Canyon Falls Dr	Widening	$ 1,435,000
C-6	UMABL	Denton Creek Blvd	1155' S of Canyon Falls Dr to Cross Timbers Rd	New	$ 4,323,000
C-7	UC	Stonecrest Rd	850' S of Canyon Falls Dr to UMAB 1	New	$ 3,137,000
C-8	UC	Stonecrest Rd	UMAB 1 to Cross Timbers Rd	New	$ 5,437,000
C-9	UMABL	UMAB 1	Denton Creek Blvd to US 377	New	$ 4,444,000
C-10	UMABL	UMAB2	Denton Creek Blvd to West Town Limit	New	$ 3,512,000
C-11	UC	Urban Collector 1	Cross Timbers Road to Cross Timbers Rd	New	$ 10,995,000
C-12	UC	Urban Collector 1	Stonecrest Rd to Cross Timbers Rd	New	$ 4,577,000

Signal Installation And Intersection Improvements

S-14		Intersection	US 377 at Canyon Falls Dr.	Proposed	$ 205,000
S-15		Intersection	Cross Timbers Rd. at Canyon Falls Dr.	Proposed	$ 275,000
S-16		Intersection	Cross Timbers Rd. at Denton Creek Blvd.	Proposed	$ 275,000
S-17		Intersection	Cross Timbers Rd. at Cross Timbers/US 377 Connecto	Proposed	$ 275,000

TOTAL $ 98,482,000

Town of Flower Mound

2020 Roadway Impact Fee Update

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated: 10/30/2020

Project Information:		**Description:**	**Project No.**	**C-1**
Name:	CrossTimbers/Dunham Connector	**This project consists of the construction of a concrete two-lane Rural Collector.**		
Limits:	Cross Timbers Rd to Dunham Rd			
Impact Fee Class:	RC			
Ultimate Class:	RC			
Length (lf):	2,720			
Service Area(s):	C			

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
107	Unclassified Street Excavation	5,138	CY	$ 27.00	$ 138,720
207	8" Lime Stabilization	10,880	SY	$ 15.00	$ 163,200
307	8" Reinforced Concrete	10,276	SY	$ 73.00	$ 750,116
407	Block Sod with 4" Topsoil (no sidewalk)	13,902	SY	$ 10.00	$ 139,022
507	No Sidewalk	0	SF	$ 8.00	$ -
				Paving Construction Cost Subtotal:	**$ 1,191,058**

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
√	Prep ROW		5%	$ 59,553
	Traffic Control	None Anticipated	0%	$ -
√	Pavement Markings/Markers		5%	$ 59,553
√	Roadway Drainage	Standard Internal System	35%	$ 416,870
	Special Drainage Structures	None Anticipated	$0	$ -
√	Water	Minor Adjustments	5%	$ 59,553
√	Sewer	Minor Adjustments	5%	$ 59,553
√	Establish Turf / Erosion Control		2%	$ 23,821
√	Illumination	Standard Ilumination System	6%	$ 71,463
	Other:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 750,366**

Paving and Allowance Subtotal:		**$ 1,941,424**
Construction Contingency:	15%	$ 291,214
Construction Cost TOTAL:		**$ 2,233,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 2,233,000**
Engineering/Survey/Testing:		20%	$ 446,600
Mobilization		6%	$ 133,980
ROW/Easement Acquisition:	New Roadway Alignment	30%	$ 669,900
		Impact Fee Project Cost TOTAL:	**$ 3,483,000**

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Town of Flower Mound

2020 Roadway Impact Fee Update

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated: 10/30/2020

Project Information:		**Description:**	**Project No.**	**C-2**
Name:	CrossTimbers/US 377 Connector1	**This project consists of the construction of a concrete four-lane Greenway Rural Arterial.**		
Limits:	US 377 to Cross Timbers Rd			
Impact Fee Class:	GRA			
Ultimate Class:	GRA			
Length (lf):	11,275			
Service Area(s):	C			

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
103	Unclassified Street Excavation	36,331	CY	$ 27.00	$ 980,925
203	10" Lime Stabilization	77,672	SY	$ 15.00	$ 1,165,083
303	8" Reinforced Concrete	55,122	SY	$ 73.00	$ 4,023,922
403	Block Sod with 4" Topsoil (no sidewalk)	77,672	SY	$ 10.00	$ 776,722
503	No Sidewalk	0	SF	$ 8.00	$ -
601	Turn Lanes and Median Openings	8,264	SY	$ 70.00	$ 578,484
				Paving Construction Cost Subtotal:	**$ 7,525,137**

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
√	Prep ROW		5%	$ 376,257
	Traffic Control	None Anticipated	0%	$ -
√	Pavement Markings/Markers		5%	$ 376,257
√	Roadway Drainage	Standard Internal System	35%	$ 2,633,798
	Special Drainage Structures	None Anticipated	$0	$ -
√	Water	Minor Adjustments	5%	$ 376,257
√	Sewer	Minor Adjustments	5%	$ 376,257
√	Establish Turf / Erosion Control		2%	$ 150,503
√	Illumination	Standard Ilumination System	6%	$ 451,508
	Other:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 4,740,836**
			Paving and Allowance Subtotal:	**$ 12,265,974**
			Construction Contingency: 15%	$ 1,839,896
			Construction Cost TOTAL:	**$ 14,106,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 14,106,000**
Engineering/Survey/Testing:		20%	$ 2,821,200
Mobilization		6%	$ 846,360
ROW/Easement Acquisition:	New Roadway Alignment	30%	$ 4,231,800
		Impact Fee Project Cost TOTAL:	**$ 22,005,000**

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Town of Flower Mound

2020 Roadway Impact Fee Update

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated: 10/30/2020

Project Information:		**Description:**	**Project No.**	**C-3**
Name:	CrossTimbers/US 377 Connector2 CrossTimbers/US 377 Connector1 to	**This project consists of the construction of a concrete two-lane Rural Collector.**		
Limits:	Cross Timbers Rd			
Impact Fee Class:	RC			
Ultimate Class:	RC			
Length (lf):	4,755			
Service Area(s):	C			

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
107	Unclassified Street Excavation	8,982	CY	$ 27.00	$ 242,505
207	8" Lime Stabilization	19,020	SY	$ 15.00	$ 285,300
307	8" Reinforced Concrete	17,963	SY	$ 73.00	$ 1,311,323
407	Block Sod with 4" Topsoil (no sidewalk)	24,303	SY	$ 10.00	$ 243,033
507	No Sidewalk	0	SF	$ 8.00	$ -
				Paving Construction Cost Subtotal:	**$ 2,082,162**

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
√	Prep ROW		5%	$ 104,108
	Traffic Control	None Anticipated	0%	$ -
√	Pavement Markings/Markers		5%	$ 104,108
√	Roadway Drainage	Standard Internal System	35%	$ 728,757
	Special Drainage Structures	None Anticipated	$0	$ -
√	Water	Minor Adjustments	5%	$ 104,108
√	Sewer	Minor Adjustments	5%	$ 104,108
√	Establish Turf / Erosion Control		2%	$ 41,643
√	Illumination	Standard Ilumination System	6%	$ 124,930
	Other:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 1,311,762**
			Paving and Allowance Subtotal:	**$ 3,393,924**
			Construction Contingency: 15%	$ 509,089
			Construction Cost TOTAL:	**$ 3,904,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 3,904,000**
Engineering/Survey/Testing:		20%	$ 780,800
Mobilization		6%	$ 234,240
ROW/Easement Acquisition:	New Roadway Alignment	30%	$ 1,171,200
		Impact Fee Project Cost TOTAL:	**$ 6,090,000**

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Town of Flower Mound

2020 Roadway Impact Fee Update

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated: 10/30/2020

Project Information:		**Description:**	**Project No.**	**C-4**
Name:	Denton Creek Blvd IH-35 Diamond Interchange to 120'	**This project consists of the construction of a new four-lane Urban Minor Arterial with bike lanes and a bridge costing $7,000,000.**		
Limits:	NW of Prairie Ridge Rd			
Impact Fee Class:	UMABL			
Ultimate Class:	UMABL			
Length (lf):	6,185			
Service Area(s):	C			

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
114	Unclassified Street Excavation	21,304	CY	$ 27.00	$ 575,205
214	10" Lime Stabilization	45,357	SY	$ 15.00	$ 680,350
314	8" Reinforced Concrete	42,608	SY	$ 73.00	$ 3,110,368
414	Block Sod with 4" Topsoil (with sidewalk)	20,617	SY	$ 10.00	$ 206,167
514	4' Sidewalk	49,480	SF	$ 8.00	$ 395,840
601	Turn Lanes and Median Openings	4,533	SY	$ 70.00	$ 317,333
				Paving Construction Cost Subtotal:	**$ 5,285,262**

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
√	Prep ROW		5%	$ 264,263
	Traffic Control	None Anticipated	0%	$ -
√	Pavement Markings/Markers		5%	$ 264,263
√	Roadway Drainage	Standard Internal System	35%	$ 1,849,842
√	Special Drainage Structures	Bridge	$7,000,000	$ 7,000,000
√	Water	Minor Adjustments	5%	$ 264,263
√	Sewer	Minor Adjustments	5%	$ 264,263
√	Establish Turf / Erosion Control		2%	$ 105,705
√	Illumination	Standard Ilumination System	6%	$ 317,116
	Other:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 10,329,715**

Paving and Allowance Subtotal:		**$ 15,614,977**
Construction Contingency:	15%	$ 2,342,247
Construction Cost TOTAL:		**$ 17,958,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 17,958,000**
Engineering/Survey/Testing:		20%	$ 3,591,600
Mobilization		6%	$ 1,077,480
ROW/Easement Acquisition:	New Roadway Alignment	30%	$ 5,387,400
		Impact Fee Project Cost TOTAL:	**$ 28,014,000**

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Town of Flower Mound

2020 Roadway Impact Fee Update

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated: 11/4/2020

Project Information:		**Description:**	**Project No.**	**C-5**
Name:	Denton Creek Blvd	**This project consists of the construction of half of an Urban Minor Arterial with bike lanes.**		
Limits:	Canyon Falls Dr to 1155' S of Canyon Falls Dr			
Impact Fee Class:	UMABL (1/2)			
Ultimate Class:	UMABL			
Length (lf):	1,195			
Service Area(s):	C			

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
115	Unclassified Street Excavation	2,058	CY	$ 27.00	$ 55,568
215	10" Lime Stabilization	4,382	SY	$ 15.00	$ 65,725
315	8" Reinforced Concrete	4,116	SY	$ 73.00	$ 300,476
415	Block Sod with 4" Topsoil (with sidewalk)	3,054	SY	$ 10.00	$ 30,539
515	4' Sidewalk	4,780	SF	$ 8.00	$ 38,240
				Paving Construction Cost Subtotal:	**$ 490,548**

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
√	Prep ROW		5%	$ 24,527
	Traffic Control	None Anticipated	0%	$ -
√	Pavement Markings/Markers		5%	$ 24,527
√	Roadway Drainage	Standard Internal System	35%	$ 171,692
	Special Drainage Structures	None Anticipated	$0	$ -
√	Water	Minor Adjustments	5%	$ 24,527
√	Sewer	Minor Adjustments	5%	$ 24,527
√	Establish Turf / Erosion Control		2%	$ 9,811
√	Illumination	Standard Ilumination System	6%	$ 29,433
	Other:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 309,045**
			Paving and Allowance Subtotal:	**$ 799,592**
			Construction Contingency: 15%	$ 119,939
			Construction Cost TOTAL:	**$ 920,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 920,000**
Engineering/Survey/Testing:		20%	$ 184,000
Previous Contribution			
Mobilization		6%	$ 55,200
ROW/Easement Acquisition:	New Roadway Alignment	30%	$ 276,000
		Impact Fee Project Cost TOTAL:	**$ 1,435,000**

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Town of Flower Mound

2020 Roadway Impact Fee Update

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated: 10/30/2020

Project Information:		**Description:**	**Project No.**	**C-6**
Name:	Denton Creek Blvd	**This project consists of the construction of an Urban Minor Arterial with bike lanes.**		
Limits:	1155' S of Canyon Falls Dr to Cross Timbers Rd			
Impact Fee Class:	UMABL (1/2)			
Ultimate Class:	UMABL			
Length (lf):	3,600			
Service Area(s):	C			

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
115	Unclassified Street Excavation	6,200	CY	$ 27.00	$ 167,400
215	10" Lime Stabilization	13,200	SY	$ 15.00	$ 198,000
315	8" Reinforced Concrete	12,400	SY	$ 73.00	$ 905,200
415	Block Sod with 4" Topsoil (with sidewalk)	9,200	SY	$ 10.00	$ 92,000
515	4' Sidewalk	14,400	SF	$ 8.00	$ 115,200
601	Turn Lanes and Median Openings	0	SY	$ 70.00	$ -
				Paving Construction Cost Subtotal:	**$ 1,477,800**

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
√	Prep ROW		5%	$ 73,890
	Traffic Control	None Anticipated	0%	$ -
√	Pavement Markings/Markers		5%	$ 73,890
√	Roadway Drainage	Standard Internal System	35%	$ 517,230
	Special Drainage Structures	None Anticipated	$0	$ -
√	Water	Minor Adjustments	5%	$ 73,890
√	Sewer	Minor Adjustments	5%	$ 73,890
√	Establish Turf / Erosion Control		2%	$ 29,556
√	Illumination	Standard Ilumination System	6%	$ 88,668
	Other:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 931,014**
			Paving and Allowance Subtotal:	**$ 2,408,814**
			Construction Contingency: 15%	$ 361,322
			Construction Cost TOTAL:	**$ 2,771,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 2,771,000**
Engineering/Survey/Testing:		20%	$ 554,200
Mobilization		6%	$ 166,260
ROW/Easement Acquisition:	New Roadway Alignment	30%	$ 831,300
		Impact Fee Project Cost TOTAL:	**$ 4,323,000**

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Town of Flower Mound

2020 Roadway Impact Fee Update

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated: 10/30/2020

Project Information:		**Description:**	**Project No.**	**C-7**
Name:	Stonecrest Rd	**This project consists of the construction of an**		
Limits:	850' S of Canyon Falls Dr to UMAB 1	**Urban Collector.**		
Impact Fee Class:	UMABL			
Ultimate Class:	UC			
Length (lf):	1,255			
Service Area(s):	C			

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
114	Unclassified Street Excavation	4,323	CY	$ 27.00	$ 116,715
214	10" Lime Stabilization	9,203	SY	$ 15.00	$ 138,050
314	8" Reinforced Concrete	8,646	SY	$ 73.00	$ 631,126
414	Block Sod with 4" Topsoil (with sidewalk)	4,183	SY	$ 10.00	$ 41,833
514	4' Sidewalk	10,040	SF	$ 8.00	$ 80,320
				Paving Construction Cost Subtotal:	**$ 1,072,434**

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
√	Prep ROW		5%	$ 53,622
	Traffic Control	None Anticipated	0%	$ -
√	Pavement Markings/Markers		5%	$ 53,622
√	Roadway Drainage	Standard Internal System	35%	$ 375,352
	Special Drainage Structures	None Anticipated	$0	$ -
√	Water	Minor Adjustments	5%	$ 53,622
√	Sewer	Minor Adjustments	5%	$ 53,622
√	Establish Turf / Erosion Control		2%	$ 21,449
√	Illumination	Standard Ilumination System	6%	$ 64,346
	Other:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 675,633**

Paving and Allowance Subtotal:		**$ 1,748,067**
Construction Contingency:	15%	$ 262,210
Construction Cost TOTAL:		**$ 2,011,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 2,011,000**
Engineering/Survey/Testing:		20%	$ 402,200
Mobilization		6%	$ 120,660
ROW/Easement Acquisition:	New Roadway Alignment	30%	$ 603,300
		Impact Fee Project Cost TOTAL:	**$ 3,137,000**

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Town of Flower Mound

2020 Roadway Impact Fee Update

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated: 10/30/2020

Project Information:		**Description:**	**Project No.**	**C-8**
Name:	Stonecrest Rd	**This project consists of the construction of an Urban Collector.**		
Limits:	UMAB 1 to Cross Timbers Rd			
Impact Fee Class:	UC			
Ultimate Class:	UC			
Length (lf):	3,700			
Service Area(s):	C			

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
106	Unclassified Street Excavation	7,606	CY	$ 27.00	$ 205,350
206	8" Lime Stabilization	16,033	SY	$ 15.00	$ 240,500
306	8" Reinforced Concrete	15,211	SY	$ 73.00	$ 1,110,411
406	Block Sod with 4" Topsoil (with sidewalk)	6,578	SY	$ 10.00	$ 65,778
506	4' Sidewalk	29,600	SF	$ 8.00	$ 236,800
				Paving Construction Cost Subtotal:	**$ 1,858,839**

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
√	Prep ROW		5%	$ 92,942
	Traffic Control	None Anticipated	0%	$ -
√	Pavement Markings/Markers		5%	$ 92,942
√	Roadway Drainage	Standard Internal System	35%	$ 650,594
	Special Drainage Structures	None Anticipated	$0	$ -
√	Water	Minor Adjustments	5%	$ 92,942
√	Sewer	Minor Adjustments	5%	$ 92,942
√	Establish Turf / Erosion Control		2%	$ 37,177
√	Illumination	Standard Ilumination System	6%	$ 111,530
	Other:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 1,171,069**

Paving and Allowance Subtotal:		**$ 3,029,907**
Construction Contingency:	15%	$ 454,486
Construction Cost TOTAL:		**$ 3,485,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 3,485,000**
Engineering/Survey/Testing:		20%	$ 697,000
Mobilization		6%	$ 209,100
ROW/Easement Acquisition:	New Roadway Alignment	30%	$ 1,045,500
		Impact Fee Project Cost TOTAL:	**$ 5,437,000**

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Town of Flower Mound

2020 Roadway Impact Fee Update

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated: 10/30/2020

Project Information:		**Description:**	**Project No.**	**C-9**
Name:	UMAB 1	**This project consists of the construction of an Urban Minor Arterial with bike lanes.**		
Limits:	Denton Creek Blvd to US 377			
Impact Fee Class:	UC			
Ultimate Class:	UMABL			
Length (lf):	3,025			
Service Area(s):	C			

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
106	Unclassified Street Excavation	6,218	CY	$ 27.00	$ 167,888
206	8" Lime Stabilization	13,108	SY	$ 15.00	$ 196,625
306	8" Reinforced Concrete	12,436	SY	$ 73.00	$ 907,836
406	Block Sod with 4" Topsoil (with sidewalk)	5,378	SY	$ 10.00	$ 53,778
506	4' Sidewalk	24,200	SF	$ 8.00	$ 193,600
601	Turn Lanes and Median Openings	0	SY	$ 70.00	$ -
				Paving Construction Cost Subtotal:	**$ 1,519,726**

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
√	Prep ROW		5%	$ 75,986
	Traffic Control	None Anticipated	0%	$ -
√	Pavement Markings/Markers		5%	$ 75,986
√	Roadway Drainage	Standard Internal System	35%	$ 531,904
	Special Drainage Structures	None Anticipated	$0	$ -
√	Water	Minor Adjustments	5%	$ 75,986
√	Sewer	Minor Adjustments	5%	$ 75,986
√	Establish Turf / Erosion Control		2%	$ 30,395
√	Illumination	Standard Ilumination System	6%	$ 91,184
	Other:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 957,428**
			Paving and Allowance Subtotal:	**$ 2,477,154**
			Construction Contingency: 15%	$ 371,573
			Construction Cost TOTAL:	**$ 2,849,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 2,849,000**
Engineering/Survey/Testing:		20%	$ 569,800
Mobilization		6%	$ 170,940
ROW/Easement Acquisition:	New Roadway Alignment	30%	$ 854,700
		Impact Fee Project Cost TOTAL:	**$ 4,444,000**

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Town of Flower Mound

2020 Roadway Impact Fee Update

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated: 10/30/2020

Project Information:		**Description:**	**Project No.**	**C-10**
Name:	UMAB2 Denton Creek Blvd to West Town	**This project consists of the construction of an Urban Minor Arterial with bike lanes.**		
Limits:	Limit			
Impact Fee Class:	UMABL			
Ultimate Class:	UMABL			
Length (lf):	1,405			
Service Area(s):	C			

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
114	Unclassified Street Excavation	4,839	CY	$ 27.00	$ 130,665
214	10" Lime Stabilization	10,303	SY	$ 15.00	$ 154,550
314	8" Reinforced Concrete	9,679	SY	$ 73.00	$ 706,559
414	Block Sod with 4" Topsoil (with sidewalk)	4,683	SY	$ 10.00	$ 46,833
514	4' Sidewalk	11,240	SF	$ 8.00	$ 89,920
601	Turn Lanes and Median Openings	1,030	SY	$ 70.00	$ 72,086
				Paving Construction Cost Subtotal:	**$ 1,200,613**

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
√	Prep ROW		5%	$ 60,031
	Traffic Control	None Anticipated	0%	$ -
√	Pavement Markings/Markers		5%	$ 60,031
√	Roadway Drainage	Standard Internal System	35%	$ 420,215
	Special Drainage Structures	None Anticipated	$0	$ -
√	Water	Minor Adjustments	5%	$ 60,031
√	Sewer	Minor Adjustments	5%	$ 60,031
√	Establish Turf / Erosion Control		2%	$ 24,012
√	Illumination	Standard Ilumination System	6%	$ 72,037
	Other:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 756,386**

Paving and Allowance Subtotal:		**$ 1,957,000**
Construction Contingency:	15%	$ 293,550
Construction Cost TOTAL:		**$ 2,251,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 2,251,000**
Engineering/Survey/Testing:		20%	$ 450,200
Mobilization		6%	$ 135,060
ROW/Easement Acquisition:	New Roadway Alignment	30%	$ 675,300
		Impact Fee Project Cost TOTAL:	**$ 3,512,000**

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the Town of Flower Mound.

The planning level cost projections shall not supersede the Town's Design Criteria and Construction Standards in the Code of Ordinances or the determination of the Town Engineer for a specific project.

Town of Flower Mound

2020 Roadway Impact Fee Update

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated: 10/30/2020

Project Information:		**Description:**	**Project No.**	**C-11**
Name:	Urban Collector 1 Cross Timbers Road to Cross Timbers Rd	**This project consists of the construction of an Urban Collector.**		
Limits:				
Impact Fee Class:	UMABL			
Ultimate Class:	UC			
Length (lf):	4,400			
Service Area(s):	C			

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
114	Unclassified Street Excavation	15,156	CY	$ 27.00	$ 409,200
214	10" Lime Stabilization	32,267	SY	$ 15.00	$ 484,000
314	8" Reinforced Concrete	30,311	SY	$ 73.00	$ 2,212,711
414	Block Sod with 4" Topsoil (with sidewalk)	14,667	SY	$ 10.00	$ 146,667
514	4' Sidewalk	35,200	SF	$ 8.00	$ 281,600
				Paving Construction Cost Subtotal:	**$ 3,759,928**

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
√	Prep ROW		5%	$ 187,996
	Traffic Control	None Anticipated	0%	$ -
√	Pavement Markings/Markers		5%	$ 187,996
√	Roadway Drainage	Standard Internal System	35%	$ 1,315,975
	Special Drainage Structures	None Anticipated	$0	$ -
√	Water	Minor Adjustments	5%	$ 187,996
√	Sewer	Minor Adjustments	5%	$ 187,996
√	Establish Turf / Erosion Control		2%	$ 75,199
√	Illumination	Standard Ilumination System	6%	$ 225,596
	Other:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 2,368,755**

Paving and Allowance Subtotal:		**$ 6,128,682**
Construction Contingency:	15%	$ 919,302
Construction Cost TOTAL:		**$ 7,048,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 7,048,000**
Engineering/Survey/Testing:		20%	$ 1,409,600
Mobilization		6%	$ 422,880
ROW/Easement Acquisition:	New Roadway Alignment	30%	$ 2,114,400
		Impact Fee Project Cost TOTAL:	**$ 10,995,000**

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Town of Flower Mound

2020 Roadway Impact Fee Update

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated: 10/30/2020

Project Information:		**Description:**	**Project No.**	**C-12**
Name:	Urban Collector 1	**This project consists of the construction of an Urban Collector.**		
Limits:	Stonecrest Rd to Cross Timbers Rd			
Impact Fee Class:	UC			
Ultimate Class:	UC			
Length (lf):	3,115			
Service Area(s):	C			

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
106	Unclassified Street Excavation	6,403	CY	$ 27.00	$ 172,883
206	8" Lime Stabilization	13,498	SY	$ 15.00	$ 202,475
306	8" Reinforced Concrete	12,806	SY	$ 73.00	$ 934,846
406	Block Sod with 4" Topsoil (with sidewalk)	5,538	SY	$ 10.00	$ 55,378
506	4' Sidewalk	24,920	SF	$ 8.00	$ 199,360
				Paving Construction Cost Subtotal:	**$ 1,564,941**

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
√	Prep ROW		5%	$ 78,247
	Traffic Control	None Anticipated	0%	$ -
√	Pavement Markings/Markers		5%	$ 78,247
√	Roadway Drainage	Standard Internal System	35%	$ 547,729
	Special Drainage Structures	None Anticipated	$0	$ -
√	Water	Minor Adjustments	5%	$ 78,247
√	Sewer	Minor Adjustments	5%	$ 78,247
√	Establish Turf / Erosion Control		2%	$ 31,299
√	Illumination	Standard Ilumination System	6%	$ 93,896
	Other:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 985,913**

Paving and Allowance Subtotal:		**$ 2,550,854**
Construction Contingency:	15%	$ 382,628
Construction Cost TOTAL:		**$ 2,934,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 2,934,000**
Engineering/Survey/Testing:		20%	$ 586,800
Mobilization		6%	$ 176,040
ROW/Easement Acquisition:	New Roadway Alignment	30%	$ 880,200
		Impact Fee Project Cost TOTAL:	**$ 4,577,000**

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the Town of Flower Mound.

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B. CIP Service Units of Supply

Town of Flower Mound - 2020 Roadway Impact Fee Update

CIP Service Units of Supply

Service Area A

10/30/2020

Project ID #	ROADWAY	LIMITS	LENGTH (MI)	LANES	IMPACT FEE CLASSIFICATION	PEAK HOUR VOLUME	% IN SERVICE AREA	VEH-MI CAPACITY PK-HR PER LN	VEH-MI SUPPLY PK-HR TOTAL	VEH-MI TOTAL DEMAND PK-HR	EXCESS CAPACITY PK-HR VEH-MI	TOTAL PROJECT COST	TOTAL PROJECT COST IN SERVICE AREA
A-1	Aberdeen Dr	FM 2499 (Long Prairie Rd) to 1340' N of Spinks Rd	0.48	4	UMAD	0	100%	650	1,252	0	1,252	$ 1,454,821	$ 1,454,821
A-2	Aberdeen Dr	1340' N of Spinks Rd to 700' N of Spinks Rd	0.12	4	UMAD	8	100%	650	323	1	322	$ 636,000	$ 636,000
A-3	Chinn Chapel Rd	FM 407 (Justin Rd) to Waketon Rd	0.66	4	UMAU	1,163	50%	525	688	381	307	$ 2,728,803	$ 1,364,402
A-4	Dixon Ln	Chinn Chapel Rd to Crestside Dr	1.24	4	UMAD	1,192	100%	650	3,211	1,472	1,739	$ 5,297,438	$ 5,297,438
A-5	Duncan Ln	Honeysuckle Way to Spinks Rd	0.38	4	UMAU	408	50%	525	396	77	319	$ 562,532	$ 281,266
A-6	Firewheel Dr	515' S of FM 1171 to 140' S of Hearthstone Dr	0.24	4	UMAU	36	100%	525	513	9	504	$ 603,525	$ 603,525
A-7	FM 2499 (Long Prairie Rd)	FM 1171 (Cross Timbers) to Spinks Rd	2.73	6	P6D	4,530	100%	750	12,282	12,364	-82	$ 1,515,721	$ 1,515,721
A-8	Garden Ridge Blvd	Bellaire Blvd to Forest Vista Dr	0.81	4	GUA	1,247	50%	650	1,057	507	550	$ 1,146,031	$ 573,016
A-9	Garden Ridge Blvd	FM 3040 to Spinks Rd	0.75	4	GUA	912	100%	650	1,942	681	1,261	$ 1,891,126	$ 1,891,126
A-10	Garden Ridge Blvd	Spinks Rd to Lakeside Pkwy	0.42	4	GUA	911	100%	650	1,103	386	716	$ 2,504,704	$ 2,504,704
A-11	Kirkpatrick Ln	Morriss Rd to Kirkpatrick Ln	0.99	2	UC	473	100%	425	844	469	374	$ 3,794,884	$ 3,794,884
A-12	Kirkpatrick Ln	Spanish Oak Dr to 1310' W of Garden Ridge Blvd	0.41	4	UMAD	0	100%	650	1,067	0	1,067	$ 5,243,000	$ 5,243,000
A-13	Lake Forest Blvd	75' S of Lincoln Ct to Foxborough Trail	0.15	2	UC	200	100%	425	131	31	100	$ 1,400,601	$ 1,400,601
A-14	Lakeside Pkwy	FM 2499 (Long Prairie Rd) to Gerault Rd	1.08	6	P6D	937	100%	750	4,859	1,012	3,847	$ 4,375,554	$ 4,375,554
A-15	Lakeside Pkwy	Gerault Rd to Garden Ridge Blvd	0.50	6	P6D	1,270	100%	750	2,242	633	1,609	$ 2,018,856	$ 2,018,856
A-16	Lakeside Pkwy	Garden Ridge Blvd to South Town Limit	0.53	6	P6D	999	100%	750	2,381	529	1,852	$ 2,145,590	$ 2,145,590
A-17	Morriss Rd	Mandarin Way to Flower Mound Rd	0.16	4	UMAD	1,981	100%	650	412	314	98	$ 1,009,492	$ 1,009,492
A-18	Sagebrush Dr	Old Settlers Rd to FM 2499 (Long Prairie Rd)	0.51	2	UC	476	100%	425	438	245	193	$ 3,209,771	$ 3,209,771
A-19,B-6	Simmons Rd	Wichita Trail to McKamy Creek Rd	0.51	4	UMAU	428	50%	525	540	110	430	$ 1,128,789	$ 564,395
A-20	Spinks Rd	Aberdeen Dr to Gerault Rd	0.93	4	UMAD	1,259	100%	650	2,417	1,170	1,247	$ 448,253	$ 448,253
A-21	Spinks Rd	Gerault Rd to Garden Ridge Blvd	0.56	4	UMAD	324	100%	650	1,464	182	1,281	$ 968,297	$ 968,297
A-22	Timber Creek Rd	445' S of Glenn Hollow Ln to Kirkpatrick Ln	0.20	4	UMAU	116	100%	525	428	24	404	$ 690,850	$ 690,850
A-23	Waketon/College Connector	Waketon Rd to College Pkwy	0.27	2	UC	0	100%	425	228	0	228	$ 1,353,000	$ 1,353,000
A-24	Windsor Dr	Amy Ln to FM 2499 (Long Prairie Rd)	0.60	2	UC	246	100%	425	512	148	364	$ 1,058,867	$ 1,058,867
A-25	Yucca Dr	440' E of FM 2499 to 460' S of FM 1171	0.08	2	UC	0	100%	425	66	0	66	$ 214,416	$ 214,416
S-1	Intersection	College Pkwy. at Timber Creek Rd.	0.00				100%					$ 275,000	$ 275,000
S-2	Intersection	Bruton Orand Blvd. at Quail Run Rd.	0.00				50%					$ 275,000	$ 137,500
S-3	Intersection	Churchill Dr. at Peters Colony Rd.	0.00				100%					$ 990,000	$ 990,000
S-4	Intersection	Cross Timbers Rd. at Forums Dr.	0.00				100%					$ 179,000	$ 179,000
S-5	Intersection	Garden Ridge Blvd. at Kirkpatrick Ln.	0.00				100%					$ 275,000	$ 275,000
S-6	Intersection	FM 2499 (Long Prairie Rd.) at Chaparral Ln.	0.00				100%					$ 375,000	$ 375,000
S-7	Intersection	Garden Ridge Blvd. at Forest Vista Rd.	0.00				100%					$ 275,000	$ 275,000
S-8	Intersection	FM 2499 (Long Prairie Rd.) at Northshore Blvd.	0.00				100%					$ 275,000	$ 275,000
S-9	Intersection	FM 2499 (Long Prairie Rd.) at Aberdeen Dr.	0.00				100%					$ 380,000	$ 380,000
S-10	Intersection	Lakeside Pkwy. at Silveron Blvd.	0.00				100%					$ 275,000	$ 275,000
S-11	Intersection	FM 2499 (Long Prairie Rd.) at Silveron Blvd.	0.00				100%					$ 390,000	$ 390,000
S-12	Intersection	Gerault Rd. at Old Gerault Rd.	0.00				100%					$ 275,000	$ 275,000
S-13	Intersection	Lakeside Pkwy. at Enterprise Dr.	0.00				100%					$ 275,000	$ 275,000
I - 1	Intersection Improvement	Dixon Ln. at Morriss Rd.	0.00				100%					$ 375,000	$ 375,000
I - 2	Right-turn lane - all directions	FM 2499 (Long Prairie Rd.) at Waketon Rd.	0.00				100%					$ 1,473,000	$ 1,473,000
I - 3	Intersection Improvement	FM 2499 (Long Prairie Rd.) at College Pkwy.	0.00				100%					$ 333,000	$ 333,000
I - 4	Northbound right-turn lane	Bruton Orand Blvd. at Cross Timbers Rd.	0.00				50%					$ 375,000	$ 187,500
I - 5	Intersection Improvement	Cross Timbers Rd. at Auburn Dr.	0.00				100%					$ 375,000	$ 375,000
I - 6	Westbound right-turn lane	Cross Timbers Rd. at FM 2499 (Long Prairie Rd.)	0.00				100%					$ 492,000	$ 492,000
I - 7	Intersection Improvement	Flower Mound Rd. at McKamy Creek Rd.	0.00				100%					$ 336,000	$ 336,000
I - 8	Second left-turn lane, EB and SB	Flower Mound Rd. at FM 2499 (Long Prairie Rd.)	0.00				100%					$ 460,000	$ 460,000
I - 9	Intersection Improvement	Flower Mound Rd. at Garden Ridge Blvd.	0.00				100%					$ 375,000	$ 375,000
I - 10	Intersection Improvement	FM 2499 (Long Prairie Rd.) at Lakeside Pkwy.	0.00				100%					$ 375,000	$ 375,000
I-11	Intersection Improvement	Lakeside Pkwy. At Gerault Rd.	0.00				100%					$ 375,000	$ 375,000
SUBTOTAL									**40,792**	**20,744**	**20,048**	**$ 57,258,921**	**$ 54,150,844**

2020 Roadway Impact Fee Update Cost Per Service Area $ 30,000

TOTAL COST IN SERVICE AREA A $ 54,180,844

Town of Flower Mound - 2020 Roadway Impact Fee Update

CIP Service Units of Supply

Service Area B

10/30/2020

Project ID #	ROADWAY	LIMITS	LENGTH (MI)	LANES	IMPACT FEE CLASSIFICATION	PEAK HOUR VOLUME	% IN SERVICE AREA	VEH-MI CAPACITY PK-HR PER LN	VEH-MI SUPPLY PK-HR TOTAL	VEH-MI TOTAL DEMAND PK-HR	EXCESS CAPACITY PK-HR VEH-MI	TOTAL PROJECT COST	TOTAL PROJECT COST IN SERVICE AREA
B-1	Flower Mound Rd	FM 1171 (Cross Timbers) to Skillern Rd	1.21	4	UMAD	848	100%	650	3,136	1,023	2,113	$ 680,380	$ 680,380
B-2	Red Rock/Shiloh Connector	Red Rock Ln to Shiloh Rd	1.01	2	RC	0	100%	425	861	0	861	$ 6,845,000	$ 6,845,000
B-3	Scenic /Flower Mound Connector	Scenic Dr to Alcott Ave	0.45	2	RC	0	100%	425	385	0	385	$ 3,067,000	$ 3,067,000
B-4	Shiloh Rd/Lusk Ln Connector	2820' E of Shiloh Rd to Lusk Ln	0.58	2	RC	0	100%	425	496	0	496	$ 3,945,000	$ 3,945,000
B-5	Shiloh Rd/Lusk Ln Connector	Shiloh Rd to 2820' E of Shiloh Rd	0.53	2	RC	0	50%	425	227	0	227	$ 3,611,000	$ 1,805,500
A-19,B-6	Simmons Rd	Wichita Trail to McKamy Creek Rd	0.51	4	UMAU	428	50%	525	540	110	430	$ 1,128,789	$ 564,395
S-2	Intersection	Bruton Orand Blvd. at Quail Run Rd.	0.00				50%					$ 275,000	$ 137,500
I - 4	Northbound right-turn lane	Bruton Orand Blvd. at Cross Timbers Rd.	0.00				50%					$ 230,000	$ 115,000
I-12	Intersection Improvement	Cross Timbers Rd. at Flower Mound Rd.	0.00				100%					$ 375,000	$ 375,000
SUBTOTAL									**5,645**	**1,133**	**4,512**	**$ 20,157,169**	**$ 17,534,775**

2020 Roadway Impact Fee Update Cost Per Service Area $ 30,000

TOTAL COST IN SERVICE AREA B $ 17,564,775

Town of Flower Mound - 2020 Roadway Impact Fee Update

CIP Service Units of Supply

Service Area C

10/30/2020

Project ID #	ROADWAY	LIMITS	LENGTH (MI)	LANES	IMPACT FEE CLASSIFICATION	PEAK HOUR VOLUME	% IN SERVICE AREA	VEH-MI CAPACITY PK-HR PER LN	VEH-MI SUPPLY PK-HR TOTAL	VEH-MI TOTAL DEMAND PK-HR	EXCESS CAPACITY PK-HR VEH-MI	TOTAL PROJECT COST	TOTAL PROJECT COST IN SERVICE AREA
C-1	CrossTimbers/Dunham Connector	Cross Timbers Rd to Dunham Rd	0.51	2	RC	0	100%	425	437	0	437	$ 3,483,000	$ 3,483,000
C-2	CrossTimbers/US 377 Connector1	US 377 to Cross Timbers Rd	2.14	4	GRA	0	100%	650	5,551	0	5,551	$ 22,005,000	$ 22,005,000
C-3	CrossTimbers/US 377 Connector2	CrossTimbers/US 377 Connector1 to Cross Timbers Rd	0.90	2	RC	0	100%	425	766	0	766	$ 6,090,000	$ 6,090,000
C-4	Denton Creek Blvd	IH-35 Diamond Interchange to 120' NW of Prairie Ridge Rd	1.17	4	UMABL	0	100%	650	3,047	0	3,047	$ 28,014,000	$ 28,014,000
C-5	Denton Creek Blvd	Canyon Falls Dr to 1155' S of Canyon Falls Dr	0.23	4	UMABL	2	100%	650	589	0	589	$ 1,435,000	$ 1,435,000
C-6	Denton Creek Blvd	1155' S of Canyon Falls Dr to Cross Timbers Rd	0.68	4	UMABL	0	100%	650	1,772	0	1,772	$ 4,323,000	$ 4,323,000
C-7	Stonecrest Rd	850' S of Canyon Falls Dr to UMAB 1	0.24	2	UC	0	100%	425	202	0	202	$ 3,137,000	$ 3,137,000
C-8	Stonecrest Rd	UMAB 1 to Cross Timbers Rd	0.70	2	UC	0	100%	425	596	0	596	$ 5,437,000	$ 5,437,000
C-9	UMAB 1	Denton Creek Blvd to US 377	0.57	4	UMABL	0	100%	650	1,491	0	1,491	$ 4,444,000	$ 4,444,000
C-10	UMAB2	Denton Creek Blvd to West Town Limit	0.27	4	UMABL	0	100%	650	692	0	692	$ 3,512,000	$ 3,512,000
C-11	Urban Collector 1	Cross Timbers Road to Cross Timbers Rd	0.83	2	UC	0	100%	425	708	0	708	$ 10,995,000	$ 10,995,000
C-12	Urban Collector 1	Stonecrest Rd to Cross Timbers Rd	0.59	2	UC	0	100%	425	501	0	501	$ 4,577,000	$ 4,577,000
S-14	Intersection	US 377 at Canyon Falls Dr.					100%					$ 205,000	$ 205,000
S-15	Intersection	Cross Timbers Rd. at Canyon Falls Dr.					50%					$ 275,000	$ 137,500
S-16	Intersection	Cross Timbers Rd. at Denton Creek Blvd.					100%					$ 275,000	$ 275,000
S-17	Intersection	Cross Timbers Rd. at Cross Timbers/US 377 Connector 1					100%					$ 275,000	$ 275,000
SUBTOTAL									**16,352**	**0**	**16,352**	**$ 98,482,000**	**$ 98,344,500**

2020 Roadway Impact Fee Update Cost Per Service Area $ 30,000

TOTAL COST IN SERVICE AREA C $ 98,374,500

C. Existing Roadway Facilities Inventory

Town of Flower Mound - 2020 Roadway Impact Fee Update
Existing Roadway Facilities Inventory

Service Area A

10/30/2020

OBJECTID	ROADWAY	FROM	TO	LENGTH (ft)	LENGTH (mi)	SERVICE AREA	STATUS	STATUS 2020	EXIST LANE		EXIST TYPE	TP TYPE	PM PEAK HOUR VOLUME		% IN SERVICE AREA	VEH-MI CAPACITY PK-HR PER LN		VEH-MI SUPPLY PK-HR TOTAL		VEH-MI DEMAND PK-HR TOTAL		EXCESS CAPACITY PK-HR VEH-MI		EXISTING DEFICIENCIES PK-HR VEH-MI	
									EB/NB	SB/WB			NB/EB	SB/WB		NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB
27	Aberdeen Dr	700' N of Spinks Rd	Spinks Rd	698	0.13	A	Completed	Established	2	2	4D	UMAD	8	8	100%	650	650	172	172	1	1	171	171		
28	Aberdeen Dr	FM 2499 (Long Prairie Rd)	1340' N of Spinks Rd	2,543	0.48	A	Widening	Widening	0	2	2U	UMAD	0	0	100%	475	475	0	458	0	0	0	458		
205	Aberdeen Dr	1340' N of Spinks Rd	700' N of Spinks Rd	655	0.12	A	Widening	Widening	2	0	2U	UMAD	8	0	100%	475	475	118	0	1	0	117	0		
68	Auburn Dr	Cross Timbers Rd	Peters Colony Rd	2,164	0.41	A	Completed	Established	1	1	2U	UC	155	155	100%	475	475	195	195	64	64	131	131		
103	Bridlewood Blvd	Waketon Rd	Windsor Dr	5,148	0.97	A/B	Completed	Established	2	2	4D	UMAD	419	432	50%	650	650	634	634	204	211	429	423		
132	Bridlewood Blvd	Windsor Dr	Cross Timbers Rd	2,813	0.53	A/B	Completed	Established	2	2	4D	UMAD	455	368	50%	650	650	346	346	121	98	225	248		
36	Browning Dr	Grand Park Pl Ln	Valley Ridge Blvd	1,131	0.21	A	Completed	Established	1	1	2U	UC	413	413	100%	475	475	102	102	88	88	13	13		
126	Browning Dr	FM 407 (Justin Rd)	Grand Park Pl Ln	759	0.14	A	Completed	Established	2	2	4D	UC	413	413	100%	650	650	187	187	59	59	127	127		
69	Bruton Orand Blvd	Quail Run	Flower Mound Rd	3,727	0.71	A/B	Completed	Established	2	2	4D	UMAD	491	331	50%	650	650	459	459	173	117	286	342		
160	Bruton Orand Blvd	Cross Timbers Rd	Quail Run	2,032	0.38	A/B	Completed	Established	2	2	4D	UMAD	543	474	50%	650	650	250	250	105	91	146	159		
34	Chinn Chapel Rd	North Town Limit	FM 407 (Justin Rd)	2,535	0.48	A	Completed	Established	1	1	2U	RC	221	221	50%	475	475	114	114	53	53	61	61		
39	Chinn Chapel Rd	FM 407 (Justin Rd)	Waketon Rd	3,459	0.66	A	Completed	Completed_2015	2	2	4U	UMAU	612	551	50%	525	525	344	344	200	180	143	163		
56	Churchill Dr	Windsor Dr	Cross Timbers Rd	2,774	0.53	A	Completed	Established	1	1	2U	UC	200	200	100%	475	475	250	250	105	105	145	145		
67	Churchill Dr	Peters Colony Rd	FM 2499 (Long Prairie Rd)	1,751	0.33	A	Completed	Established	2	2	4U	UMAU	160	160	100%	525	525	348	348	53	53	295	295		
133	Churchill Dr	Cross Timbers Rd	Peters Colony Rd	675	0.13	A	Completed	Established	2	2	4U	UMAU	350	350	100%	525	525	134	134	45	45	90	90		
50	College Pkwy	Morriss Rd	Kirkpatrick Ln	5,535	1.05	A	Completed	Established	2	2	4D	UMAD	270	284	100%	650	650	1,363	1,363	283	298	1,080	1,065		
52	College Pkwy	FM 2499 (Long Prairie Rd)	Morriss Rd	4,620	0.88	A	Completed	Established	2	2	4D	UMAD	177	200	100%	650	650	1,138	1,138	155	175	983	963		
120	College Pkwy	Waketon/College Connector	FM 2499 (Long Prairie Rd)	676	0.13	A	Completed	Completed_2020	1	1	2U	UC	13	13	100%	475	475	61	61	2	2	59	59		
1	Cross Timbers Rd	Morriss Rd	Kirkpatrick Ln	6,286	1.19	A	Completed	Established	3	3	6D	P6D	1,619	1,623	100%	750	750	2,679	2,679	1,928	1,932	751	747		
55	Cross Timbers Rd	Bruton Orand Blvd	Old Settlers Rd	5,080	0.96	A	Completed	Established	3	3	6D	P6D	1,119	1,331	100%	750	750	2,165	2,165	1,077	1,281	1,088	884		
59	Cross Timbers Rd	Kirkpatrick Ln	East Town Limit	2,659	0.50	A	Completed	Established	3	3	6D	P6D	1,659	1,808	50%	750	750	567	567	418	455	149	111		
65	Cross Timbers Rd	FM 2499 (Long Prairie Rd)	Morriss Rd	2,606	0.49	A	Completed	Established	3	3	6D	P6D	1,486	1,696	100%	750	750	1,111	1,111	734	837	377	273		
66	Cross Timbers Rd	Old Settlers Rd	FM 2499 (Long Prairie Rd)	3,270	0.62	A	Completed	Established	3	3	6D	P6D	1,434	1,428	100%	750	750	1,394	1,394	888	884	505	509		
2	Dixon Ln	Chinn Chapel Rd	Crestside Dr	6,521	1.24	A	Completed	Completed_2015	2	2	4D	UMAD	561	631	100%	650	650	1,606	1,606	693	779	913	826		
201	Dixon Ln	Crestside Dr	Morriss Rd	1,548	0.29	A	Completed	Established	2	2	4D	UMAD	472	612	100%	650	650	381	381	138	179	243	202		
13	Duncan Ln	Honeysuckle Way	Spinks Rd	1,989	0.38	A	Widening	Widening	1	1	2U	UMAU	204	204	50%	475	475	89	89	38	38	51	51		
202	Duncan Ln	Flower Mound Rd	Honeysuckle Way	1,491	0.28	A	Completed	Established	2	2	4U	UMAU	212	212	50%	525	525	148	148	30	30	118	118		
57	Eaton St	Morriss Rd	Timber Creek Rd	501	0.09	A	Completed	Established	2	2	4D	UMAD	112	112	100%	650	650	123	123	11	11	113	113		
75	Firewheel Dr	Morriss Rd	FM 2499 (Long Prairie Rd)	3,049	0.58	A	Completed	Established	2	2	4D	UMAD	127	127	100%	650	650	751	751	73	73	677	677		
138	Firewheel Dr	140' S of Hearthstone Dr	Morriss Rd	1,841	0.35	A	Completed	Established	2	2	4D	UMAD	64	64	100%	650	650	453	453	22	22	431	431		
189	Firewheel Dr	515' S of FM 1171	140' S of Hearthstone Dr	1,290	0.24	A	Completed	Completed_2020	2	2	4U	UMAU	18	18	100%	525	525	257	257	4	4	252	252		
192	Firewheel Dr	Cross Timbers	420' S of Cross Timbers	425	0.08	A	Completed	Established	2	2	4U	UMAU	18	18	100%	525	525	85	85	1	1	83	83		
14	Flower Mound Rd	Garden Ridge Blvd	Duncan Ln	2,796	0.53	A	Completed	Established	3	3	6D	P6D	1,122	1,174	100%	750	750	1,191	1,191	594	622	597	570		
15	Flower Mound Rd	Lake Forest Blvd	Gerault Rd	5,538	1.05	A	Completed	Established	3	3	6D	P6D	810	1,290	100%	750	750	2,360	2,360	850	1,353	1,510	1,007		
16	Flower Mound Rd	McKamy Creek Rd	FM 2499 (Long Prairie Rd)	1,339	0.25	A	Completed	Established	3	3	6D	P6D	1,019	1,789	100%	750	750	571	571	258	454	312	117		
72	Flower Mound Rd	Simmons Rd	1660' W of Old Settlers Rd	2,731	0.52	A/B	Completed	Established	2	2	4D	UMAD	607	1,104	50%	650	650	336	336	157	285	179	51		
73	Flower Mound Rd	Old Settlers Rd	McKamy Creek Rd	2,972	0.56	A	Completed	Established	2	2	4D	UMAD	1,399	705	100%	650	650	732	732	787	397	-56	335	56	
76	Flower Mound Rd	Gerault Rd	Garden Ridge Blvd	2,553	0.48	A	Completed	Established	3	3	6D	P6D	1,243	1,323	100%	750	750	1,088	1,088	601	640	487	448		
139	Flower Mound Rd	FM 2499 (Long Prairie Rd)	Lake Forest Blvd	2,847	0.54	A	Completed	Established	3	3	6D	P6D	831	1,164	100%	750	750	1,213	1,213	448	628	765	586		
195	Flower Mound Rd	1660' W of Old Settlers Rd	Old Settlers Rd	1,639	0.31	A	Completed	Established	2	2	4D	UMAD	607	1,104	100%	650	650	404	404	188	343	215	61		
7	FM 2499 (Long Prairie Rd)	Gerault Rd	South Town Limit	921	0.17	A	Completed	Established	3	3	6D	P6D	1,019	1,789	100%	750	750	392	392	178	312	215	80		
11	FM 2499 (Long Prairie Rd)	Lakeside Village Blvd	Gerault Rd	4,812	0.91	A	Completed	Established	3	3	6D	P6D	1,191	2,490	100%	750	750	2,051	2,051	1,085	2,269	965	-219		219
30	FM 2499 (Long Prairie Rd)	FM 407 (Justin Rd)	Dixon Ln	2,179	0.41	A	Completed	Established	3	3	6D	P6D	2,161	1,150	100%	750	750	928	928	892	475	37	454		
40	FM 2499 (Long Prairie Rd)	Dixon Ln	Waketon Rd	3,251	0.62	A	Completed	Established	3	3	6D	P6D	2,285	1,320	100%	750	750	1,385	1,385	1,407	813	-22	573	22	
64	FM 2499 (Long Prairie Rd)	125' S of W Windsor Dr	Cross Timbers Rd	4,077	0.77	A	Completed	Established	3	3	6D	P6D	2,339	1,456	100%	750	750	1,737	1,737	1,806	1,124	-69	613	69	
82	FM 2499 (Long Prairie Rd)	FM 1171 (Cross Timbers)	Spinks Rd	14,410	2.73	A	Completed	Completed_2015	3	3	6D	P6D	2,950	1,580	100%	750	750	6,141	6,141	8,051	4,312	-1,910	1,829	1,910	
130	FM 2499 (Long Prairie Rd)	College Pkwy	125' S of Windsor Dr	3,427	0.65	A	Completed	Established	3	3	6D	P6D	2,339	1,456	100%	750	750	1,460	1,460	1,518	945	-58	515	58	
131	FM 2499 (Long Prairie Rd)	Waketon Rd	College Pkwy	1,533	0.29	A	Completed	Established	3	3	6D	P6D	2,353	1,411	100%	750	750	653	653	683	410	-30	244	30	
151	FM 2499 (Long Prairie Rd)	Spinks Rd	Lakeside Village Blvd	4,454	0.84	A	Completed	Established	3	3	6D	P6D	2,828	1,263	100%	750	750	1,898	1,898	2,385	1,065	-488	833	488	
33	FM 407 (Justin Road)	West Town Limit	FM 2499 (Long Prairie Rd)	3,453	0.65	A	Completed	Established	2	2	4D	UMAD	990	1,566	50%	650	650	425	425	324	512	101	-87		87
35	FM 407 (Justin Road)	FM 2499 (Long Prairie Rd)	Browning Dr	8,170	1.55	A	Completed	Established	2	2	4D	UMAD	1,307	1,539	50%	650	650	1,006	1,006	1,011	1,191	-5	-185	5	185
122	FM 407 (Justin Road)	Browning Dr	East Town Limit	3,581	0.68	A	Completed	Established	2	2	4D	UMAD	1,120	1,284	50%	650	650	441	441	380	435	61	5		
20	Forest Vista Dr	FM 2499 (Long Prairie Rd)	Morriss Rd	5,290	1.00	A	Completed	Established	2	2	4D	UMAD	229	164	100%	650	650	1,303	1,303	229	164	1,073	1,138		
21	Forest Vista Dr	Morriss Rd	Garden Ridge Blvd	6,035	1.14	A	Completed	Established	2	2	4D	UMAD	277	350	100%	650	650	1,486	1,486	317	400	1,169	1,086		
17	Garden Ridge Blvd	Cross Timbers Rd	Kirkpatrick Ln	3,550	0.67	A	Completed	Established	2	2	4D	UMAD	1,126	1,126	50%	650	650	437	437	379	379	58	58		
18	Garden Ridge Blvd	Forest Vista Dr	Flower Mound Rd	3,933	0.74	A	Completed	Established	2	2	4D	GUA	958	453	100%	650	650	968	968	714	337	255	631		
19	Garden Ridge Blvd	Bellaire Blvd	Forest Vista Dr	4,292	0.81	A	Completed	Completed_2015	2	2	4D	GUA	792	455	50%	650	650	528	528	322	185	206	343		
83	Garden Ridge Blvd	FM 3040	Spinks Rd	3,944	0.75	A	Completed	Completed_2015	2	2	4D	GUA	736	176	100%	650	650	971	971	550	131	421	839		
145	Garden Ridge Blvd	Spinks Rd	Lakeside Pkwy	2,240	0.42	A	Completed	Completed_2015	2	2	4D	GUA	743	168	100%	650	650	551	551	315	71	236	480		
8	Gerault Rd	Lakeside Pkwy	FM 2499 (Long Prairie Rd)	3,355	0.64	A	Completed	Established	3	3	6D	P6D	1,451	833	100%	750	750	1,430	1,430	922	529	508	900		
147	Gerault Rd	Flower Mound Rd	Spinks Rd	4,410	0.84	A	Completed	Established	3	3	6D	P6D	1,886	731	100%	750	750	1,879	1,879	1,575	610	304	1,269		
153	Gerault Rd	Spinks Rd	Lakeside Pkwy	1,426	0.27	A	Completed	Established	3	3	6D	P6D	1,422	1,422	100%	750	750	608	608	384	384	224	224		

Town of Flower Mound - 2020 Roadway Impact Fee Update
Existing Roadway Facilities Inventory

Service Area A

10/30/2020

OBJECTID	ROADWAY	FROM	TO	LENGTH (ft)	LENGTH (mi)	SERVICE AREA	STATUS	STATUS 2020	EXIST LANE		EXIST TYPE	TP TYPE	PM PEAK HOUR VOLUME		% IN SERVICE AREA	VEH-MI CAPACITY PK-HR PER LN		VEH-MI SUPPLY PK-HR TOTAL		VEH-MI DEMAND PK-HR TOTAL		EXCESS CAPACITY PK-HR VEH-MI		EXISTING DEFICIENCIES PK-HR VEH-MI	
									EB/NB	SB/WB			NB/EB	SB/WB		NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB
31	Kirkpatrick Ln	Spanish Oak Dr	1310' W of Garden Ridge Blvd	2,167	0.41	A	New	Future	0	0	0	UMAD	0	0	100%	0	0	0	0	0	0	0	0		
32	Kirkpatrick Ln	College Pkwy	Cross Timbers Rd	2,711	0.51	A	Completed	Established	1	1	2U	UC	326	326	50%	475	475	122	122	84	84	38	38		
44	Kirkpatrick Ln	Morriss Rd	Kirkpatrick Ln	5,240	0.99	A	Completed	Completed_2015	1	1	2U	UC	224	249	100%	475	475	471	471	222	247	249	224		
49	Kirkpatrick Ln	Lonebuck Dr	College Pkwy	3,973	0.75	A	Completed	Established	1	1	2U	UC	203	203	50%	475	475	179	179	76	76	102	102		
140	Kirkpatrick Ln	1340' W of Garden Ridge Blvd	Garden Ridge Blvd	1,342	0.25	A	Completed	Established	2	2	4D	UMAD	201	201	100%	650	650	330	330	51	51	279	279		
141	Kirkpatrick Ln	Cross Timbers Rd	Spanish Oak Dr	2,361	0.45	A	Completed	Established	2	2	4D	UMAD	201	201	100%	650	650	581	581	90	90	491	491		
22	Lake Forest Blvd	Flower Mound Rd	75' S of Lincoln Ct	2,718	0.51	A	Completed	Established	1	1	2U	UC	100	100	100%	475	475	244	244	51	51	193	193		
108	Lake Forest Blvd	Forest Vista Dr	Flower Mound Rd	2,453	0.46	A	Completed	Established	2	2	4D	UMAD	31	31	100%	650	650	604	604	14	14	590	590		
190	Lake Forest Blvd	Foxborough Trail	Aberdeen Dr	590	0.11	A	Completed	Established	1	1	2U	UC	100	100	100%	475	475	53	53	11	11	42	42		
191	Lake Forest Blvd	75' S of Lincoln Ct	Foxborough Trail	812	0.15	A	Completed	Completed_2020	1	1	2U	UC	100	100	100%	475	475	73	73	15	15	58	58		
9	Lakeside Pkwy	Lakeside Village Blvd	FM 2499 (Long Prairie Rd)	4,349	0.82	A	Completed	Established	2	2	4D	UMAP	349	349	100%	650	650	1,071	1,071	287	287	783	783		
10	Lakeside Pkwy	Garden Ridge Blvd	South Town Limit	2,794	0.53	A	Widening	Widening	2	2	4D	P6D	375	624	100%	650	650	688	688	198	330	489	358		
152	Lakeside Pkwy	Gerault Rd	Garden Ridge Blvd	2,630	0.50	A	Widening	Widening	2	2	4D	P6D	464	806	100%	650	650	648	648	231	401	416	246		
154	Lakeside Pkwy	FM 2499 (Long Prairie Rd)	Gerault Rd	5,701	1.08	A	Widening	Widening	2	2	4D	P6D	611	326	100%	650	650	1,404	1,404	660	352	744	1,052		
118	Lakeside Village Blvd	Lakeside Pkwy	FM 2499 (Long Prairie Rd)	2,036	0.39	A	Completed	Established	3	3	6D	P6D	772	772	100%	750	750	868	868	298	298	570	570		
24	Lexington Ave	Strait Ln	Gerault Rd	1,471	0.28	A	Completed	Established	2	2	4D	UMAD	64	64	100%	650	650	362	362	18	18	344	344		
25	Lexington Ave	Spinks Rd	Strait Ln	4,388	0.83	A	Completed	Established	2	2	4D	UMAD	70	70	100%	650	650	1,080	1,080	58	58	1,022	1,022		
48	Lonebuck Dr	Valley Ridge Blvd	Kirkpatrick Ln	1,767	0.33	A	Completed	Established	1	1	2U	UC	250	250	50%	475	475	79	79	42	42	38	38		
81	McKamy Creek Rd	Old Settlers Rd	Flower Mound Rd	1,772	0.34	A	Completed	Established	2	2	4U	UMAU	100	100	100%	525	525	352	352	34	34	319	319		
105	McKamy Creek Rd	Simmons Rd	Old Settlers Rd	2,739	0.52	A	Completed	Established	2	2	4U	UMAU	121	121	100%	525	525	545	545	63	63	482	482		
42	Morriss Rd	FM 407 (Justin Rd)	Dixon Ln	2,268	0.43	A	Completed	Established	2	2	4D	UMAD	1,000	677	100%	650	650	559	559	430	291	129	268		
43	Morriss Rd	Kirkpatrick Ln	Waketon Rd	598	0.11	A	Completed	Established	2	2	4D	UMAD	993	720	100%	650	650	147	147	112	82	35	66		
51	Morriss Rd	Waketon Rd	College Pkwy	2,518	0.48	A	Completed	Established	2	2	4D	UMAD	993	720	100%	650	650	620	620	474	343	146	277		
60	Morriss Rd	College Pkwy	Cross Timbers Rd	6,475	1.23	A	Completed	Established	2	2	4D	UMAD	1,170	742	100%	650	650	1,594	1,594	1,435	910	159	684		
77	Morriss Rd	Forest Vista Dr	Mandarin Way	4,051	0.77	A	Completed	Established	2	2	4D	UMAD	1,361	620	100%	650	650	997	997	1,044	476	-47	522	47	
78	Morriss Rd	Firewheel Dr	Forest Vista Dr	4,126	0.78	A	Completed	Established	2	2	4D	UMAD	1,265	789	100%	650	650	1,016	1,016	988	617	27	399		
124	Morriss Rd	Dixon Ln	Kirkpatrick Ln	2,042	0.39	A	Completed	Established	2	2	4D	UMAD	1,120	803	100%	650	650	503	503	433	311	70	192		
137	Morriss Rd	Cross Timbers Rd	Firewheel Dr	2,759	0.52	A	Completed	Established	2	2	4D	UMAD	1,129	678	100%	650	650	679	679	590	354	89	325		
194	Morriss Rd	Mandarin Way	Flower Mound Rd	837	0.16	A	Widening	Widening	2	3	4D	UMAD	1,361	620	100%	650	650	206	309	216	98	-10	211	10	
3	Old Settlers Rd	Flower Mound Rd	McKamy Creek Rd	2,784	0.53	A	Completed	Established	2	2	4U	UMAU	97	225	100%	525	525	554	554	51	119	503	435		
74	Old Settlers Rd	Cross Timbers Rd	Sagebrush Dr	3,402	0.64	A	Completed	Established	2	2	4U	UMAU	261	103	100%	525	525	677	677	168	66	508	610		
157	Old Settlers Rd	Sagebrush Dr	Flower Mound Rd	3,148	0.60	A	Completed	Established	2	2	4U	UMAU	345	539	100%	525	525	626	626	206	321	420	305		
63	Peters Colony Rd	Old Settlers Rd	Churchill Dr	1,349	0.26	A	Completed	Established	1	1	2U	UC	100	100	100%	475	475	121	121	26	26	96	96		
158	Peters Colony Rd	Auburn Dr	Old Settlers Rd	3,314	0.63	A	Completed	Established	1	1	2U	UC	100	100	100%	475	475	298	298	63	63	235	235		
159	Quail Run	Bruton Orand Blvd	Auburn Dr	1,921	0.36	A	Completed	Established	1	1	2U	UC	94	94	100%	475	475	173	173	34	34	139	139		
29	Rippy Rd	Waketon Rd	FM 2499 (Long Prairie Rd)	4,404	0.83	A	Completed	Established	1	1	2U	UC	98	98	100%	475	475	396	396	82	82	314	314		
61	Sagebrush Dr	Yucca Dr	Morriss Rd	1,620	0.31	A	Completed	Established	2	2	4D	UMAD	369	369	100%	650	650	399	399	113	113	286	286		
119	Sagebrush Dr	Old Settlers Rd	FM 2499 (Long Prairie Rd)	2,718	0.51	A	Completed	Completed_2020	1	1	2U	UC	238	238	100%	475	475	244	244	123	123	122	122		
136	Sagebrush Dr	FM 2499 (Long Prairie Rd)	Yucca Dr	841	0.16	A	Completed	Established	2	2	4U	UMAU	362	362	100%	525	525	167	167	58	58	110	110		
6	Silveron Blvd	FM 2499 (Long Prairie Rd)	Lakeside Pkwy	3,741	0.71	A	Completed	Established	2	2	4D	UMAD	611	326	100%	650	650	921	921	433	231	488	690		
106	Simmons Rd	McKamy Creek Rd	White Chalk Rd	5,508	1.04	A/B	Completed	Established	1	1	2U	RC	100	100	50%	475	475	248	248	52	52	196	196		
107	Simmons Rd	Wichita Trail	McKamy Creek Rd	2,715	0.51	A/B	Completed	Completed_2015	2	2	4U	UMAU	202	226	50%	525	525	270	270	52	58	218	212		
12	Spinks Rd	Gerault Rd	Garden Ridge Blvd	2,972	0.56	A	Completed	Completed_2015	2	2	4D	UMAD	179	145	100%	650	650	732	732	101	82	631	650		
26	Spinks Rd	Aberdeen Dr	Gerault Rd	4,908	0.93	A	Completed	Completed_2015	2	2	4D	UMAD	657	602	100%	650	650	1,208	1,208	611	560	598	649		
146	Spinks Rd	Garden Ridge Blvd	Duncan Ln	2,859	0.54	A	Completed	Established	2	2	4D	UMAD	226	175	100%	650	650	704	704	122	95	582	609		
150	Spinks Rd	FM 2499 (Long Prairie Rd)	Aberdeen Dr	1,127	0.21	A	Completed	Established	2	2	4D	UMAD	657	602	100%	650	650	277	277	140	128	137	149		
45	Stone Hill Farms Pkwy	205' S of Stone Bend Ln	Valley Ridge Blvd	1,275	0.24	A	Completed	Established	1	1	2U	UMAD	158	158	100%	475	475	115	115	38	38	77	77		
127	Stone Hill Farms Pkwy	FM 407 (Justin Rd)	205' S of Stone Bend Ln	766	0.15	A	Completed	Established	2	2	4D	UMAD	146	146	100%	650	650	189	189	21	21	167	167		
23	Strait Ln	Flower Mound Rd	Lexington Ave	1,753	0.33	A	Completed	Established	1	1	2U	UC	28	28	100%	475	475	158	158	9	9	148	148		
46	Timber Creek Rd	Kirkpatrick Ln	College Pkwy	4,887	0.93	A	Completed	Established	1	1	2U	UC	47	47	100%	475	475	440	440	44	44	396	396		
47	Timber Creek Rd	445' S of Glenn Hollow Ln	Kirkpatrick Ln	1,076	0.20	A	Completed	Completed_2020	2	2	4U	UMAU	58	58	100%	525	525	214	214	12	12	202	202		
58	Timber Creek Rd	Eaton St	Cross Timbers Rd	5,257	1.00	A	Completed	Established	1	1	2U	UC	189	189	100%	475	475	473	473	188	188	285	285		
129	Timber Creek Rd	College Pkwy	Eaton St	2,490	0.47	A	Completed	Established	1	1	2U	UC	50	50	100%	475	475	224	224	24	24	200	200		
203	Timber Creek Rd	Valley Ridge Blvd	445' S of Glenn Hollow Ln	882	0.17	A	Completed	Established	2	2	4U	UMAU	58	58	100%	525	525	175	175	10	10	166	166		
125	Valley Ridge Blvd	Morriss Rd	Lonebuck Dr	5,309	1.01	A	Completed	Established	2	2	4U	UMAD	412	802	100%	525	525	1,056	1,056	414	806	642	249		
38	Waketon Rd	Chinn Chapel Rd	Rippy Rd	3,623	0.69	A	Completed	Established	1	1	2U	UC	165	225	100%	475	475	326	326	113	154	213	172		
41	Waketon Rd	FM 2499 (Long Prairie Rd)	Morriss Rd	4,148	0.79	A	Completed	Established	1	1	2U	UC	570	564	100%	475	475	373	373	448	443	-75	-70	75	70
128	Waketon Rd	Rippy Rd	FM 2499 (Long Prairie Rd)	971	0.18	A	Completed	Established	1	1	2U	UC	187	187	100%	475	475	87	87	34	34	53	53		
199	Waketon Rd	Bridlewood Blvd	515' E of Bridlewood Blvd	514	0.10	A	Completed	Established	1	1	2U	RC	136	136	50%	475	475	23	23	7	7	17	17		
121	Waketon/College Connector	Waketon Rd	College Pkwy	1,417	0.27	A	New	Future	0	0	0	UC	0	0	100%	0	0	0	0	0	0	0	0		
110	Windsor Dr	Bridlewood Blvd	Amy Ln	4,184	0.79	A	Completed	Established	1	1	2U	UC	120	126	100%	475	475	376	376	95	100	281	277		
200	Windsor Dr	Amy Ln	FM 2499 (Long Prairie Rd)	3,178	0.60	A	Completed	Completed_2015	1	1	2U	UC	120	126	100%	475	475	286	286	72	76	214	210		
62	Yucca Dr	Cross Timbers Rd	Yucca Dr	727	0.14	A	Completed	Established	1	1	2U	UC	162	162	100%	475	475	65	65	22	22	43	43		
142	Yucca Dr	440' E of FM 2499	460' S of FM 1171	411	0.08	A	Completed	Completed_2020	1	1	2U	UC	0	0	100%	475	475	37	37	0	0	37	37		
143	Yucca Dr	420' E of Long Prairie Rd	FM 2499 (Long Prairie Rd)	419	0.08	A	Completed	Established	1	1	2U	UC	160	160	100%	475	475	38	38	13	13	25	25		
	SUBTOTAL			**369,715**	**70.02**													**167,124**		**89,462**		**77,662**		**3,329**	

Town of Flower Mound - 2020 Roadway Impact Fee Update
Existing Roadway Facilities Inventory

Service Area B

10/30/2020

OBJECTID	ROADWAY	FROM	TO	LENGTH (ft)	LENGTH (mi)	SERVICE AREA	STATUS	STATUS 2020	EXIST LANE		EXIST TYPE	TP TYPE	PM PEAK HOUR VOLUME		% IN SERVICE AREA	VEH-MI CAPACITY PK-HR PER LN		VEH-MI SUPPLY PK-HR TOTAL		VEH-MI DEMAND PK-HR TOTAL		EXCESS CAPACITY PK-HR VEH-MI		EXISTING DEFICIENCIES PK-HR VEH-MI	
									EB/NB	SB/WB			NB/EB	SB/WB		NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB
103	Bridlewood Blvd	Waketon Rd	Windsor Dr	5,148	0.97	A/B	Completed	Established	2	2	4D	UMAD	419	432	50%	650	650	634	634	204	211	429	423		
132	Bridlewood Blvd	Windsor Dr	Cross Timbers Rd	2,813	0.53	A/B	Completed	Established	2	2	4D	UMAD	455	368	50%	650	650	346	346	121	98	225	248		
69	Bruton Orand Blvd	Quail Run	Flower Mound Rd	3,727	0.71	A/B	Completed	Established	2	2	4D	UMAD	491	331	50%	650	650	459	459	173	117	286	342		
160	Bruton Orand Blvd	Cross Timbers Rd	Quail Run	2,032	0.38	A/B	Completed	Established	2	2	4D	UMAD	543	474	50%	650	650	250	250	105	91	146	159		
163	Cardinal Dr	Rocky Point Rd	Wichita Trail	1,641	0.31	B	Completed	Established	1	1	2U	RC	15	15	100%	475	475	148	148	5	5	143	143		
54	Cross Timbers Rd	Flower Mound Rd	Bruton Orand Blvd	5,133	0.97	B	Completed	Established	3	3	6D	P6D	945	1,053	100%	750	750	2,187	2,187	919	1,024	1,269	1,164		
90	Cross Timbers Rd	Red Rock Ln	Shiloh Rd	5,493	1.04	B	Completed	Established	3	3	6D	P6D	1,005	1,032	100%	750	750	2,341	2,341	1,045	1,074	1,295	1,267		
96	Cross Timbers Rd	Shiloh Rd	Flower Mound Rd	5,966	1.13	B	Completed	Established	3	3	6D	P6D	1,058	1,318	100%	750	750	2,542	2,542	1,195	1,489	1,347	1,053		
166	Cross Timbers Rd	High Rd	Red Rock Ln	2,403	0.46	B/C	Completed	Established	3	3	6D	P6D	1,005	1,032	50%	750	750	512	512	229	235	283	277		
72	Flower Mound Rd	Simmons Rd	1660' W of Old Settlers Rd	2,731	0.52	A/B	Completed	Established	2	2	4D	UMAD	607	1,104	50%	650	650	336	336	157	285	179	51		
155	Flower Mound Rd	Skillern Blvd	Simmons Rd	4,769	0.90	B	Completed	Established	2	2	4D	UMAD	291	501	100%	650	650	1,174	1,174	263	452	911	722		
162	Flower Mound Rd	FM 1171 (Cross Timbers)	Skillern Rd	6,369	1.21	B	Completed	Completed_2015	2	2	4D	UMAD	347	501	100%	650	650	1,568	1,568	419	604	1,150	964		
85	High Rd	Cross Timbers Rd	South Town Limit	9,117	1.73	B/C	Completed	Established	1	1	2U	RC	20	20	50%	475	475	410	410	17	17	393	393		
101	Kings Rd	Lusk Ln	3090' E of Lusk Ln	3,092	0.59	B	Completed	Established	1	1	2U	RC	100	100	50%	475	475	139	139	29	29	110	110		
102	Kings Rd	3090' E of Lusk Ln	North Town Limit	2,119	0.40	B	Completed	Established	1	1	2U	RC	199	199	50%	475	475	95	95	40	40	55	55		
100	Lusk Ln	Kings Rd	1315' S of Kings Rd	1,339	0.25	B	Completed	Established	1	1	2U	RC	316	316	50%	475	475	60	60	40	40	20	20		
135	Lusk Ln	Shiloh Rd/Lusk Ln Connector	Cross Timbers Rd	1,599	0.30	B	Completed	Established	1	1	2U	RC	300	300	100%	475	475	144	144	91	91	53	53		
196	Lusk Ln	1315' S of Kings Rd	Shiloh Rd/Lusk Ln Connector	1,310	0.25	B	Completed	Established	1	1	2U	RC	316	316	100%	475	475	118	118	78	78	39	39		
104	Quail Run Rd	Flower Mound Rd	Bruton Orand Blvd	3,183	0.60	B	Completed	Established	1	1	2U	UC	9	9	100%	475	475	286	286	5	5	281	281		
89	Red Rock Ln	Red Rock/Shiloh Connector	Cross Timbers Rd	1,798	0.34	B/C	Completed	Established	1	1	2U	RC	343	343	50%	475	475	81	81	58	58	22	22		
167	Red Rock Ln	North Town Limit	Red Rock/Shiloh Connector	756	0.14	B/C	Completed	Established	1	1	2U	RC	337	337	50%	475	475	34	34	24	24	10	10		
84	Red Rock/Shiloh Connector	Red Rock Ln	Shiloh Rd	5,346	1.01	B	New	Future	0	0	0	RC	0	0	100%	0	0	0	0	0	0	0	0		
93	Ridgecrest Dr	Raintree Pl	Sunset Trail	4,268	0.81	B	Completed	Established	1	1	2U	RC	3	3	100%	475	475	384	384	2	2	382	382		
94	Rocky Point Rd	Sunset Trail	Orchard Dr	3,149	0.60	B	Completed	Established	1	1	2U	RC	15	15	100%	475	475	283	283	9	9	274	274		
4	Scenic /Flower Mound Connec	Scenic Dr	Alcott Ave	2,393	0.45	B	New	Future	0	0	0	RC	0	0	100%	0	0	0	0	0	0	0	0		
95	Scenic Dr	Cross Timbers Rd	Wichita Trail	10,083	1.91	B	Completed	Established	1	1	2U	RC	15	15	100%	475	475	907	907	29	29	878	878		
193	Scenic/Flower Mound Connec	Alcott Ave	Flower Mound Rd	285	0.05	B	Completed	Completed_2020	1	1	2U	RC	0	0	100%	475	475	26	26	0	0	26	26		
91	Shiloh Rd	North Town Limits	Shiloh Rd/Lusk Ln Connector	3,108	0.59	B	Completed	Established	1	1	2U	RC	500	500	50%	475	475	140	140	147	147	-7	-7	7	7
92	Shiloh Rd	Cross Timbers Rd	Sunset Trail	6,466	1.22	B	Completed	Established	1	1	2U	RC	55	55	100%	475	475	582	582	67	67	514	514		
168	Shiloh Rd	Shiloh Rd/Lusk Ln Connector	Cross Timbers Rd	1,685	0.32	B	Completed	Established	1	1	2U	RC	500	500	100%	475	475	152	152	160	160	-8	-8	8	8
99	Shiloh Rd/Lusk Ln Connector	2820' E of Shiloh Rd	Lusk Ln	3,082	0.58	B	New	Future	0	0	0	RC	0	0	100%	0	0	0	0	0	0	0	0		
197	Shiloh Rd/Lusk Ln Connector	Shiloh Rd	2820' E of Shiloh Rd	2,822	0.53	B	New	Future	0	0	0	RC	0	0	50%	0	0	0	0	0	0	0	0		
71	Simmons Rd	Flower Mound Rd	Wichita Trail	2,213	0.42	B	Completed	Established	2	2	4U	UMAU	202	226	100%	525	525	440	440	85	95	355	345		
106	Simmons Rd	McKamy Creek Rd	White Chalk Rd	5,508	1.04	A/B	Completed	Established	1	1	2U	RC	100	100	50%	475	475	248	248	52	52	196	196		
107	Simmons Rd	Wichita Trail	McKamy Creek Rd	2,715	0.51	A/B	Completed	Completed_2015	2	2	4U	UMAU	202	226	50%	525	525	270	270	52	58	218	212		
98	Skillern Blvd	River Hill Dr	Wichita Trail	2,670	0.51	B	Completed	Established	1	1	2U	RC	18	18	100%	475	475	240	240	9	9	231	231		
156	Skillern Blvd	Flower Mound Rd	River Hill Dr	936	0.18	B	Completed	Established	1	1	2U	RC	70	70	100%	475	475	84	84	12	12	72	72		
164	Sunset Trail	Rocky Point Rd	Shiloh Rd	978	0.19	B	Completed	Established	1	1	2U	RC	12	12	100%	475	475	88	88	2	2	86	86		
165	Sunset Trail	Ridgecrest Dr	Rocky Point Rd	1,169	0.22	B	Completed	Established	1	1	2U	RC	3	3	100%	475	475	105	105	1	1	104	104		
53	Waketon Rd	525' W of Bridlewood Blvd	Bridlewood Blvd	532	0.10	B	Completed	Established	1	1	2U	RC	136	136	50%	475	475	24	24	7	7	17	17		
70	Wichita Trail	Skillern Blvd	Simmons Rd	5,373	1.02	B	Completed	Established	1	1	2U	RC	31	31	100%	475	475	483	483	32	32	452	452		
97	Wichita Trail	Scenic Dr	Skillern Blvd	7,472	1.42	B	Completed	Established	1	1	2U	RC	27	27	100%	475	475	672	672	38	38	634	634		
	SUBTOTAL			**144,788**	**27.42**													**37,985**		**12,711**		**25,275**		**31**	

Town of Flower Mound - 2020 Roadway Impact Fee Update
Existing Roadway Facilities Inventory

Service Area C

10/30/2020

OBJECTID	ROADWAY	FROM	TO	LENGTH (ft)	LENGTH (mi)	SERVICE AREA	STATUS	STATUS 2020	EXIST LANE		EXIST TYPE	TP TYPE	PM PEAK HOUR VOLUME		% IN SERVICE AREA	VEH-MI CAPACITY PK-HR PER LN		VEH-MI SUPPLY PK-HR TOTAL		VEH-MI DEMAND PK-HR TOTAL		EXCESS CAPACITY PK-HR VEH-MI		EXISTING DEFICIENCIES PK-HR VEH-MI	
									EB/NB	SB/WB			NB/EB	SB/WB		NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB
113	Canyon Falls Dr	Cross Timbers Rd	West Town Limit	1,766	0.33	C	Completed	Established	2	2	4D	UMABL	177	175	100%	650	650	435	435	59	59	376	376		
114	Canyon Falls Dr	Prairie Ridge Rd	US 377	2,558	0.48	C	Completed	Established	2	2	4D	UMABL	250	250	100%	650	650	630	630	121	121	509	509		
182	Canyon Falls Dr	West Town Limit	Denton Creek Blvd	1,613	0.31	C	Completed	Established	2	2	4D	UMABL	151	152	100%	650	650	397	397	46	46	351	351		
183	Canyon Falls Dr	Denton Creek Blvd	Prairie Ridge Rd	2,287	0.43	C	Completed	Established	2	2	4D	UMABL	250	250	100%	650	650	563	563	108	108	455	455		
88	Cross Timbers Rd	CrossTimbers/US 377 Connector1	High Rd	9,310	1.76	C	Completed	Established	3	3	6D	P6D	990	988	100%	750	750	3,968	3,968	1,746	1,742	2,222	2,225		
166	Cross Timbers Rd	High Rd	Red Rock Ln	2,403	0.46	B/C	Completed	Established	3	3	6D	P6D	1,005	1,032	50%	750	750	512	512	229	235	283	277		
170	Cross Timbers Rd	CrossTimbers/US 377 Connector2	CrossTimbers/US 377 Connector1	4,336	0.82	C	Completed	Established	3	3	6D	P6D	990	988	100%	750	750	1,848	1,848	813	811	1,035	1,036		
172	Cross Timbers Rd	US 377	CrossTimbers/US 377 Connector2	2,923	0.55	C	Completed	Established	3	3	6D	P6D	858	826	100%	750	750	1,246	1,246	475	457	771	788		
178	Cross Timbers Rd	West Town Limit	Canyon Falls Dr	1,031	0.20	C	Completed	Established	3	3	6D	P6D	858	826	50%	750	750	220	220	84	81	136	139		
179	Cross Timbers Rd	470' E of Canyon Falls Dr	US 377	5,134	0.97	C	Completed	Established	3	3	6D	P6D	858	826	100%	750	750	2,188	2,188	834	803	1,353	1,385		
198	Cross Timbers Rd	Canyon Falls Dr	470' E of Canyon Falls Dr	468	0.09	C	Completed	Established	3	3	6D	P6D	858	826	50%	750	750	100	100	38	37	62	63		
171	CrossTimbers/Dunham Conne	Cross Timbers Rd	Dunham Rd	2,718	0.51	C	New	Future	0	0	0	RC	0	0	100%	0	0	0	0	0	0	0	0		
169	CrossTimbers/US 377 Conne	US 377	Cross Timbers Rd	11,273	2.14	C	New	Future	0	0	0	GRA	0	0	100%	0	0	0	0	0	0	0	0		
87	CrossTimbers/US 377 Conne	CrossTimbers/US 377 Connector1	Cross Timbers Rd	4,756	0.90	C	New	Future	0	0	0	RC	0	0	100%	0	0	0	0	0	0	0	0		
115	Denton Creek Blvd	120' NW of Prairie Ridge Rd	Canyon Falls Dr	3,436	0.65	C	Completed	Completed_2020	2	2	4D	UMABL	81	82	100%	650	650	846	846	53	53	793	793		
180	Denton Creek Blvd	IH-35 Diamond Interchange	120' NW of Prairie Ridge Rd	6,187	1.17	C	New	Future	0	0	0	UMABL	0	0	100%	0	0	0	0	0	0	0	0		
181	Denton Creek Blvd	Canyon Falls Dr	1155' S of Canyon Falls Dr	1,196	0.23	C	Widening	Widening	2	0	2U	UMABL	2	0	100%	475	475	215	0	0	0	215	0		
187	Denton Creek Blvd	1155' S of Canyon Falls Dr	Cross Timbers Rd	3,599	0.68	C	New	Future	0	0	0	UMABL	0	0	100%	0	0	0	0	0	0	0	0		
86	Dunham Rd	Dunham/US 377 Connector	CrossTimbers/Dunham Connector	5,368	1.02	C	Completed	Established	1	1	2U	RC	1,087	1,087	100%	475	475	483	483	1,105	1,105	-622	-622	622	622
85	High Rd	Cross Timbers Rd	South Town Limit	9,117	1.73	B/C	Completed	Established	1	1	2U	RC	20	20	50%	475	475	410	410	17	17	393	393		
112	Oak Knoll Rd	Prairie Ridge Rd	Stonecrest Rd	800	0.15	C	Completed	Established	1	1	2U	UC	100	100	100%	475	475	72	72	15	15	57	57		
111	Prairie Ridge Rd	North Town Limits	Denton Creek Blvd	604	0.11	C	Completed	Established	1	1	2U	UC	0	0	100%	475	475	54	54	0	0	54	54		
186	Prairie Ridge Rd	North Town Limit	Canyon Falls Dr	2,584	0.49	C	Completed	Established	1	1	2U	UC	100	100	100%	475	475	232	232	49	49	184	184		
89	Red Rock Ln	Red Rock/Shiloh Connector	Cross Timbers Rd	1,798	0.34	B/C	Completed	Established	1	1	2U	RC	343	343	50%	475	475	81	81	58	58	22	22		
167	Red Rock Ln	North Town Limit	Red Rock/Shiloh Connector	756	0.14	B/C	Completed	Established	1	1	2U	RC	337	337	50%	475	475	34	34	24	24	10	10		
116	Stonecrest Rd	Oak Knoll Rd	Canyon Falls Dr	1,933	0.37	C	Completed	Established	1	1	2U	UC	68	68	100%	475	475	174	174	25	25	149	149		
177	Stonecrest Rd	UMAB 1	Cross Timbers Rd	3,700	0.70	C	New	Future	0	0	0	UC	0	0	100%	0	0	0	0	0	0	0	0		
184	Stonecrest Rd	850' S of Canyon Falls Dr	UMAB 1	1,256	0.24	C	New	Future	0	0	0	UC	0	0	100%	0	0	0	0	0	0	0	0		
185	Stonecrest Rd	Canyon Falls Dr	850' S of Canyon Falls Dr	880	0.17	C	Completed	Established	1	1	2U	UC	32	32	100%	475	475	79	79	5	5	74	74		
188	Stonecrest Rd	North Town Limit	Oak Knoll Rd	1,454	0.28	C	Completed	Established	1	1	2U	UC	55	55	100%	475	475	131	131	15	15	116	116		
5	UMAB 1	Denton Creek Blvd	US 377	3,027	0.57	C	New	Future	0	0	0	UMABL	0	0	100%	0	0	0	0	0	0	0	0		
117	UMAB2	Denton Creek Blvd	West Town Limit	1,405	0.27	C	New	Future	0	0	0	UMABL	0	0	100%	0	0	0	0	0	0	0	0		
175	Urban Collector 1	Cross Timbers Road	Cross Timbers Rd	4,399	0.83	C	New	Future	0	0	0	UC	0	0	100%	0	0	0	0	0	0	0	0		
176	Urban Collector 1	Stonecrest Rd	Cross Timbers Rd	3,115	0.59	C	New	Future	0	0	0	UC	0	0	100%	0	0	0	0	0	0	0	0		
109	US 377	North Town Limit	CrossTimbers/US 377 Connector1	4,661	0.88	C	Completed	Established	2	2	4D	P6D	642	647	100%	650	650	1,148	1,148	567	571	581	576		
173	US 377	Cross Timbers Rd	West Town Limit	5,019	0.95	C	Completed	Established	2	2	4D	P6D	1,215	868	100%	650	650	1,236	1,236	1,155	825	81	411		
174	US 377	CrossTimbers/US 377 Connector1	Cross Timbers Rd	4,174	0.79	C	Completed	Established	2	2	4D	P6D	657	602	100%	650	650	1,028	1,028	519	476	508	552		
	SUBTOTAL			**123,041**	**23.30**													**36,439**		**15,902**		**20,537**		**1,244**	

D. Plan For Awarding the Roadway Impact Fee Credit Summary

SUMMARY OF ROADWAY IMPACT FEE DETERMINATION

Service Area A

Recoverable Impact Fee CIP Costs	$	22,206,549	Line 11, Max Fee Calculation Table
Financing Costs		2,660,377	See Detail Below
Existing Fund Balance		-	Page 1 of Appendix E - Service Area A
Interest Earnings		(115,159)	Page 5 of Appendix E - Service Area A
Pre Credit Recoverable Cost for Impact Fee	$	24,751,766	Sum of Above
Credit for Ad Valorem Revenues		(540,978)	Page 7 of Appendix E - Service Area A
Maximum Recoverable Cost for Impact Fee	**$**	**24,210,788**	

Recoverable Impact Fee CIP Costs:

Represents the portion of capital improvement costs that are eligible for funding through impact fees.
Reference is Service Area A column, line 11 on the Max Fee Calculation Table.

Financing Costs:

New Annual Debt Service	$	1,037,766	(Page 3 of Appendix E - Service Area A)
Existing Annual Debt Service		9,910,133	(Page 3 of Appendix E - Service Area A)
Principal Component		(8,287,522)	(Page 4 of Appendix E - Service Area A)
Financing Costs	$	2,660,377	

Existing Fund Balance:

Represents impact fee revenue collected but not yet expended. Some projects that are included in the 2020 Impact Fee Update were also included in the previous Impact Fee Updates.
To avoid charging twice for the same project, the impact fee revenues collected but yet to be expended (i.e. fund balance) are credited against the recoverable costs.

Interest Earnings:

Represents the interest earned on cash flows. Assumes a 0.438% annual interest rate based on the Town's current annual return as of 06/30/2020. The Impact Fee Statute states that interest earnings are funds of the impact fee account and are held to the same restrictions as impact fee revenues. Therefore in order to recognize that interest earnings are used to fund capital improvements, interest earnings are credited against the recoverable costs.

Pre Credit Recoverable Cost for Impact Fee:

Represents Recoverable Impact Fee CIP Costs plus Financing Costs less Interest Earnings.

Credit for Ad Valorem Revenues:

In 2001, the Impact Fee Statute was amended to include a credit for ad valorem and utility revenues generated by new service units during the ten-year timeframe that are used to fund impact fee eligible projects for which the new service units were charged an impact fee. The intent of this amendment is to avoid double-charging the new service units for impact fee capital improvements. The credit recognizes ad valorem revenues used to fund the debt service of debt financed impact fee eligible projects and assumes that all non-debt funded impact fee eligible project costs will be funded solely through impact fee revenues or non-ad valorem revenue sources.

Maximum Recoverable Cost for Impact Fee:

Represents Pre Credit Recoverable Cost for Impact Fee less Credit for Ad Valorem Revenues.
This is the maximum cost that can be recovered through impact fees.

SUMMARY OF ROADWAY IMPACT FEE DETERMINATION

Service Area B

Recoverable Impact Fee CIP Costs	$	3,248,699	Line 11, Max Fee Calculation Table
Financing Costs		717,918	See Detail Below
Existing Fund Balance		-	Page 1 of Appendix E - Service Area B
Interest Earnings		(91,866)	Page 5 of Appendix E - Service Area B
Pre Credit Recoverable Cost for Impact Fee	$	3,874,751	Sum of Above
Credit for Ad Valorem Revenues		(1,984)	Page 7 of Appendix E - Service Area B
Maximum Recoverable Cost for Impact Fee	**$**	**3,872,766**	

Recoverable Impact Fee CIP Costs:

Represents the portion of capital improvement costs that are eligible for funding through impact fees.
Reference is Service Area B column, line 11 on the Max Fee Calculation Table.

Financing Costs:

New Annual Debt Service	$	2,191,723	(Page 3 of Appendix E - Service Area B)
Existing Annual Debt Service		66,017	(Page 3 of Appendix E - Service Area B)
Principal Component		(1,539,822)	(Page 4 of Appendix E - Service Area B)
Financing Costs	$	717,918	

Existing Fund Balance:

Represents impact fee revenue collected but not yet expended. Some projects that are included in the 2020 Impact Fee Update were also included in the previous Impact Fee Updates.
To avoid charging twice for the same project, the impact fee revenues collected but yet to be expended (i.e. fund balance) are credited against the recoverable costs.

Interest Earnings:

Represents the interest earned on cash flows. Assumes a 0.438% annual interest rate based on the Town's current annual return as of 06/30/2020. The Impact Fee Statute states that interest earnings are funds of the impact fee account and are held to the same restrictions as impact fee revenues. Therefore in order to recognize that interest earnings are used to fund capital improvements, interest earnings are credited against the recoverable costs.

Pre Credit Recoverable Cost for Impact Fee:

Represents Recoverable Impact Fee CIP Costs plus Financing Costs less Interest Earnings.

Credit for Ad Valorem Revenues:

In 2001, the Impact Fee Statute was amended to include a credit for ad valorem and utility revenues generated by new service units during the ten-year timeframe that are used to fund impact fee eligible projects for which the new service units were charged an impact fee. The intent of this amendment is to avoid double-charging the new service units for impact fee capital improvements. The credit recognizes ad valorem revenues used to fund the debt service of debt financed impact fee eligible projects and assumes that all non-debt funded impact fee eligible project costs will be funded solely through impact fee revenues or non-ad valorem revenue sources.

Maximum Recoverable Cost for Impact Fee:

Represents Pre Credit Recoverable Cost for Impact Fee less Credit for Ad Valorem Revenues.
This is the maximum cost that can be recovered through impact fees.

SUMMARY OF ROADWAY IMPACT FEE DETERMINATION

Service Area C

Recoverable Impact Fee CIP Costs	$	90,890,530	Line 11, Max Fee Calculation Table
Financing Costs		21,232,053	See Detail Below
Existing Fund Balance		-	Page 1 of Appendix E - Service Area C
Interest Earnings		(2,746,439)	Page 5 of Appendix E - Service Area C
Pre Credit Recoverable Cost for Impact Fee	$	109,376,144	Sum of Above
Credit for Ad Valorem Revenues		(1,614,052)	Page 7 of Appendix E - Service Area C
Maximum Recoverable Cost for Impact Fee	**$**	**107,762,092**	

Recoverable Impact Fee CIP Costs:

Represents the portion of capital improvement costs that are eligible for funding through impact fees.
Reference is Service Area C column, line 11 on the Max Fee Calculation Table.

Financing Costs:

New Annual Debt Service	$	66,250,027	(Page 3 of Appendix E - Service Area C)
Existing Annual Debt Service		-	(Page 3 of Appendix E - Service Area C)
Principal Component		(45,017,974)	(Page 4 of Appendix E - Service Area C)
Financing Costs	$	21,232,053	

Existing Fund Balance:

Represents impact fee revenue collected but not yet expended. Some projects that are included in the 2020 Impact Fee Update were also included in the previous Impact Fee Updates.
To avoid charging twice for the same project, the impact fee revenues collected but yet to be expended (i.e. fund balance) are credited against the recoverable costs.

Interest Earnings:

Represents the interest earned on cash flows. Assumes a 0.438% annual interest rate based on the Town's current annual return as of 06/30/2020. The Impact Fee Statute states that interest earnings are funds of the impact fee account and are held to the same restrictions as impact fee revenues. Therefore in order to recognize that interest earnings are used to fund capital improvements, interest earnings are credited against the recoverable costs.

Pre Credit Recoverable Cost for Impact Fee:

Represents Recoverable Impact Fee CIP Costs plus Financing Costs less Interest Earnings.

Credit for Ad Valorem Revenues:

In 2001, the Impact Fee Statute was amended to include a credit for ad valorem and utility revenues generated by new service units during the ten-year timeframe that are used to fund impact fee eligible projects for which the new service units were charged an impact fee. The intent of this amendment is to avoid double-charging the new service units for impact fee capital improvements. The credit recognizes ad valorem revenues used to fund the debt service of debt financed impact fee eligible projects and assumes that all non-debt funded impact fee eligible project costs will be funded solely through impact fee revenues or non-ad valorem revenue sources.

Maximum Recoverable Cost for Impact Fee:

Represents Pre Credit Recoverable Cost for Impact Fee less Credit for Ad Valorem Revenues.
This is the maximum cost that can be recovered through impact fees.

E. Plan For Awarding the Roadway Impact Fee Credit Supporting Exhibits

Town of Flower Mound 2020 Roadway Impact Fee Update

Impact Fee Calculation Assumptions

Appendix E - Impact Fee Calculation Assumptions

Service Area A

I. General Assumptions

Annual Interest Rate on Deposits [1]	0.438%
Annual Service Unit Growth [2]	3,978
Available Existing Fund Balance [3]	-

Portion of Projects Funded by Existing Debt [4]	$ 7,582,343
Non-debt Funded Project Cost [5]	13,919,026
Project Cost Funded Through New Debt [6]	705,179
Total Recoverable Project Cost [7]	$ 22,206,549

II. New Debt Issues Assumptions

Year	Principal [8]	Interest [9]	Term
1	$ 70,518	4.00%	20
2	70,518	4.00%	20
3	70,518	4.00%	20
4	70,518	4.00%	20
5	70,518	4.00%	20
6	70,518	4.00%	20
7	70,518	4.00%	20
8	70,518	4.00%	20
9	70,518	4.00%	20
10	70,518	4.00%	20
Total	$ 705,179		

III. Capital Expenditure Assumptions

Year	Annual Capital Expenditures [10]
1	$ 1,427,162
2	1,462,421
3	1,462,421
4	1,462,421
5	1,462,421
6	1,462,421
7	1,462,421
8	1,462,421
9	1,462,421
10	1,497,679
Total	$ 14,624,205

(1) Town's current earnings rate as of June 30, 2020
(2) Per Kimley-Horn Impact Fee Update
(3) Assumes all existing fund balances are already encumbered
(4) Per discussion with Town staff and files
(5) Unless specified in Town CIP, Assumes 50% of new project cost funded through sources other than debt
(6) Unless specified in Town CIP, Assumes 50% of new project costs funded through new debt issues
(7) Line 11 of the Max Fee Table Report
(8) Assumes new debt issued based on Town Input
(9) Estimated interest cost provided by Town's Financial Advisor
(10) Non-debt funded capital expenditures made in equal annual amounts. Assumes new debt proceeds expended over a 2-year timeframe with Year 10 bond proceeds spent in one year.

Town of Flower Mound 2020 Roadway Impact Fee Update

Debt Service and Expenses Summary
Appendix E - Impact Fee Calculation Assumptions
Service Area A

I. New Debt Service Detail

Year	Series 1	Series 2	Series 3	Series 4	Series 5	Series 6	Series 7	Series 8	Series 9	Series 10	Total Annual New Debt Service
1	$ 5,189	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 5,189
2	5,189	5,189	-	-	-	-	-	-	-	-	10,378
3	5,189	5,189	5,189	-	-	-	-	-	-	-	15,566
4	5,189	5,189	5,189	5,189	-	-	-	-	-	-	20,755
5	5,189	5,189	5,189	5,189	5,189	-	-	-	-	-	25,944
6	5,189	5,189	5,189	5,189	5,189	5,189	-	-	-	-	31,133
7	5,189	5,189	5,189	5,189	5,189	5,189	5,189	-	-	-	36,322
8	5,189	5,189	5,189	5,189	5,189	5,189	5,189	5,189	-	-	41,511
9	5,189	5,189	5,189	5,189	5,189	5,189	5,189	5,189	5,189	-	46,699
10	5,189	5,189	5,189	5,189	5,189	5,189	5,189	5,189	5,189	5,189	51,888
11	5,189	5,189	5,189	5,189	5,189	5,189	5,189	5,189	5,189	5,189	51,888
12	5,189	5,189	5,189	5,189	5,189	5,189	5,189	5,189	5,189	5,189	51,888
13	5,189	5,189	5,189	5,189	5,189	5,189	5,189	5,189	5,189	5,189	51,888
14	5,189	5,189	5,189	5,189	5,189	5,189	5,189	5,189	5,189	5,189	51,888
15	5,189	5,189	5,189	5,189	5,189	5,189	5,189	5,189	5,189	5,189	51,888
16	5,189	5,189	5,189	5,189	5,189	5,189	5,189	5,189	5,189	5,189	51,888
17	5,189	5,189	5,189	5,189	5,189	5,189	5,189	5,189	5,189	5,189	51,888
18	5,189	5,189	5,189	5,189	5,189	5,189	5,189	5,189	5,189	5,189	51,888
19	5,189	5,189	5,189	5,189	5,189	5,189	5,189	5,189	5,189	5,189	51,888
20	5,189	5,189	5,189	5,189	5,189	5,189	5,189	5,189	5,189	5,189	51,888
21	-	5,189	5,189	5,189	5,189	5,189	5,189	5,189	5,189	5,189	46,699
22	-	-	5,189	5,189	5,189	5,189	5,189	5,189	5,189	5,189	41,511
23	-	-	-	5,189	5,189	5,189	5,189	5,189	5,189	5,189	36,322
24	-	-	-	-	5,189	5,189	5,189	5,189	5,189	5,189	31,133
25	-	-	-	-	-	5,189	5,189	5,189	5,189	5,189	25,944
26	-	-	-	-	-	-	5,189	5,189	5,189	5,189	20,755
27	-	-	-	-	-	-	-	5,189	5,189	5,189	15,566
28	-	-	-	-	-	-	-	-	5,189	5,189	10,378
29	-	-	-	-	-	-	-	-	-	5,189	$ 5,189
	$ 103,777	$ 103,777	$ 103,777	$ 103,777	$ 103,777	$ 103,777	$ 103,777	$ 103,777	$ 103,777	$ 103,777	$ 1,037,766

Town of Flower Mound 2020 Roadway Impact Fee Update

Debt Service and Expenses Summary

Appendix E - Impact Fee Calculation Assumptions

II. Summary of Annual Expenses

Year	New Annual Debt Service[1]	Annual Capital Expenditures[2]	Annual Bond Proceeds[2]	Existing Annual Debt Service[3]	Annual Credit[4]	Total Expense
1	$ 5,189	$ 1,427,162	$ (70,518)	$ 1,113,646	$ (18,785)	2,456,694
2	10,378	1,462,421	(70,518)	1,035,356	(34,535)	2,403,101
3	15,566	1,462,421	(70,518)	919,064	(45,547)	2,280,986
4	20,755	1,462,421	(70,518)	797,867	(52,342)	2,158,183
5	25,944	1,462,421	(70,518)	758,607	(61,717)	2,114,736
6	31,133	1,462,421	(70,518)	707,537	(68,650)	2,061,923
7	36,322	1,462,421	(70,518)	626,112	(70,730)	1,983,607
8	41,511	1,462,421	(70,518)	512,918	(66,638)	1,879,694
9	46,699	1,462,421	(70,518)	396,308	(59,015)	1,775,895
10	51,888	1,497,679	(70,518)	380,173	(63,019)	1,796,203
11	51,888	-	-	357,591	-	409,479
12	51,888	-	-	337,691	-	389,579
13	51,888	-	-	337,623	-	389,511
14	51,888	-	-	338,700	-	390,588
15	51,888	-	-	310,816	-	362,704
16	51,888	-	-	307,416	-	359,305
17	51,888	-	-	270,221	-	322,109
18	51,888	-	-	235,712	-	287,601
19	51,888	-	-	111,611	-	163,499
20	51,888	-	-	55,165	-	107,053
21	46,699	-	-	-	-	46,699
22	41,511	-	-	-	-	41,511
23	36,322	-	-	-	-	36,322
24	31,133	-	-	-	-	31,133
25	25,944	-	-	-	-	25,944
26	20,755	-	-	-	-	20,755
27	15,566	-	-	-	-	15,566
28	10,378	-	-	-	-	10,378
29	5,189	-	-	-	-	5,189
	$ 1,037,766	$ 14,624,205	$ (705,179)	$ 9,910,133	$ (540,978)	$ 24,325,947

(1) Appendix E - Service Area A, Page 2

(2) Appendix E - Service Area A, Page 1

(3) Eligible Outstanding Debt Funded Projects Percent of General Projects Debt Issuance times total outstanding tax-supported annual debt service

(4) Appendix E - Service Area A, Page 7

Town of Flower Mound 2020 Roadway Impact Fee Update

Revenue Test

Appendix E - Impact Fee Calculation Assumptions

Service Area A

Year	Impact Fee	Service Units	Impact Fee Revenue	Annual Expenses	Sub-Total	Accumulated Interest	Estimated Fund Balance
Initial							$ -
1	$ 609	3,978	$ 2,421,079	$ 2,456,694	$ (35,615)	(78)	(35,693)
2	609	3,978	2,421,079	2,403,101	17,978	(117)	(17,832)
3	609	3,978	2,421,079	2,280,986	140,093	229	122,489
4	609	3,978	2,421,079	2,158,183	262,895	1,112	386,497
5	609	3,978	2,421,079	2,114,736	306,342	2,364	695,203
6	609	3,978	2,421,079	2,061,923	359,156	3,832	1,058,191
7	609	3,978	2,421,079	1,983,607	437,472	5,593	1,501,255
8	609	3,978	2,421,079	1,879,694	541,385	7,761	2,050,402
9	609	3,978	2,421,079	1,775,895	645,184	10,394	2,705,979
10	609	3,978	2,421,079	1,796,203	624,875	13,221	3,344,075
11	-	-	-	409,479	(409,479)	13,750	2,948,347
12	-	-	-	389,579	(389,579)	12,061	2,570,828
13	-	-	-	389,511	(389,511)	10,407	2,191,725
14	-	-	-	390,588	(390,588)	8,744	1,809,881
15	-	-	-	362,704	(362,704)	7,133	1,454,309
16	-	-	-	359,305	(359,305)	5,583	1,100,588
17	-	-	-	322,109	(322,109)	4,115	782,594
18	-	-	-	287,601	(287,601)	2,798	497,791
19	-	-	-	163,499	(163,499)	1,822	336,114
20	-	-	-	107,053	(107,053)	1,238	230,299
21	-	-	-	46,699	(46,699)	906	184,506
22	-	-	-	41,511	(41,511)	717	143,713
23	-	-	-	36,322	(36,322)	550	107,941
24	-	-	-	31,133	(31,133)	405	77,213
25	-	-	-	25,944	(25,944)	281	51,550
26	-	-	-	20,755	(20,755)	180	30,975
27	-	-	-	15,566	(15,566)	102	15,510
28	-	-	-	10,378	(10,378)	45	5,178
29	-	-	-	5,189	(5,189)	11	-
			24,210,788	24,325,947		115,159	

Town of Flower Mound 2020 Roadway Impact Fee Update

Impact Fee Calculation

Appendix E - Impact Fee Calculation Assumptions

Service Area A

Year	Number of Years to End of Period	Future Value Escalation Interest Rate Factor	Recovery Fee Factor	Annual Service Units Actual	Annual Service Units Escalated	Annual Expense Actual	Annual Expense Escalated
Prev							
1	29	1.1326	1.0000	3,978	4,506	2,456,694	2,782,573
2	28	1.1277	1.0000	3,978	4,486	2,403,101	2,710,002
3	27	1.1228	1.0000	3,978	4,466	2,280,986	2,561,074
4	26	1.1179	1.0000	3,978	4,447	2,158,183	2,412,625
5	25	1.1130	1.0000	3,978	4,428	2,114,736	2,353,746
6	24	1.1082	1.0000	3,978	4,408	2,061,923	2,284,956
7	23	1.1033	1.0000	3,978	4,389	1,983,607	2,188,583
8	22	1.0985	1.0000	3,978	4,370	1,879,694	2,064,887
9	21	1.0937	1.0000	3,978	4,351	1,775,895	1,942,355
10	20	1.0890	1.0000	3,978	4,332	1,796,203	1,955,999
11	19	1.0842	1.0000	-	-	409,479	443,963
12	18	1.0795	1.0000	-	-	389,579	420,545
13	17	1.0748	1.0000	-	-	389,511	418,638
14	16	1.0701	1.0000	-	-	390,588	417,965
15	15	1.0654	1.0000	-	-	362,704	386,434
16	14	1.0608	1.0000	-	-	359,305	381,143
17	13	1.0562	1.0000	-	-	322,109	340,197
18	12	1.0515	1.0000	-	-	287,601	302,425
19	11	1.0470	1.0000	-	-	163,499	171,177
20	10	1.0424	1.0000	-	-	107,053	111,591
21	9	1.0378	1.0000	-	-	46,699	48,467
22	8	1.0333	1.0000	-	-	41,511	42,894
23	7	1.0288	1.0000	-	-	36,322	37,369
24	6	1.0243	1.0000	-	-	31,133	31,890
25	5	1.0199	1.0000	-	-	25,944	26,460
26	4	1.0154	1.0000	-	-	20,755	21,075
27	3	1.0110	1.0000	-	-	15,566	15,738
28	2	1.0066	1.0000	-	-	10,378	10,446
29	1	1.0022	1.0000	-	-	5,189	5,200
					44,183	24,325,947	26,890,416

Total Escalated Expense for Entire Period	$	26,890,416
Total Escalated Service Units		44,183
Impact Fee for Service Area A	**$**	**609**

Town of Flower Mound 2020 Roadway Impact Fee Update

Impact Fee Project Funding

Appendix E - Impact Fee Calculation Assumptions

Service Area A

Impact Fee Project Name[1]	Impact Fee Project No. [1]	Cost in Service Area [1]	Impact Fee Recoverable Cost [2]	Debt Funded [3] Existing	Debt Funded [3] Proposed	Non-Debt Funded [3]	Impact Fee Recoverable Cost
Roadway Improvements - Service Area A							
Aberdeen Dr	A-1	$ 1,454,821	$ 595,797	$ -	$ 297,899	$ 297,899	$ 595,797
Aberdeen Dr	A-2	636,000	260,463	-	130,231	130,231	260,463
Chinn Chapel Rd	A-3	1,364,402	558,767	2,457	-	556,310	558,767
Dixon Ln	A-5	5,297,438	2,169,475	-	-	2,169,475	2,169,475
Duncan Ln	A-6	281,266	115,188	115,188	-	-	115,188
Firewheel Dr	A-7	603,525	247,163	19,873	-	227,291	247,163
FM 2499 (Long Prairie Rd)	A-8	1,515,721	620,738	409,533	-	211,205	620,738
Garden Ridge Blvd	A-9	573,016	234,669	169,143	-	65,525	234,669
Garden Ridge Blvd	A-10	1,891,126	774,478	631,517	-	142,961	774,478
Garden Ridge Blvd	A-11	2,504,704	1,025,759	1,025,759	-	-	1,025,759
Kirkpatrick Ln	A-12	3,794,884	1,554,130	1,462,709	-	91,421	1,554,130
Kirkpatrick Ln	A-13	5,243,000	2,147,181	1,548,444	-	598,737	2,147,181
Lake Forest Blvd	A-14	1,400,601	573,592	328,842	-	244,750	573,592
Lakeside Pkwy	A-15	4,375,554	1,791,933	-	-	1,791,933	1,791,933
Lakeside Pkwy	A-16	2,018,856	826,788	-	-	826,788	826,788
Lakeside Pkwy	A-17	2,145,590	878,690	-	-	878,690	878,690
Morriss Rd	A-18	1,009,492	413,420	167,700	-	245,720	413,420
Sagebrush Dr	A-19	3,209,771	1,314,507	1,305,630	-	8,876	1,314,507
Simmons Rd	A-20,B-7	564,395	231,138	-	-	231,138	231,138
Spinks Rd	A-21	448,253	183,574	183,574	-	-	183,574
Spinks Rd	A-22	968,297	396,549	184,775	-	211,775	396,549
Timber Creek Rd	A-23	690,850	282,926	-	-	282,926	282,926
Waketon/College Connector	A-24	1,353,000	554,098	-	277,049	277,049	554,098
Windsor Dr	A-25	1,058,867	433,641	27,200	-	406,440	433,641
Yucca Dr	A-26	214,416	87,810	-	-	87,810	87,810
Signal Installation And Intersection Improvements							
College Pkwy. at Timber Creek Rd.	S-1	$ 275,000	$ 112,622	$ -	$ -	$ 112,622	$ 112,622
Bruton Orand Blvd. at Quail Run Rd.	S-2	137,500	56,311	-	-	56,311	56,311
Churchill Dr. at Peters Colony Rd.	S-3	990,000	405,438	-	-	405,438	405,438
Cross Timbers Rd. at Forums Dr.	S-4	179,000	73,306	-	-	73,306	73,306
Garden Ridge Blvd. at Kirkpatrick Ln.	S-5	275,000	112,622	-	-	112,622	112,622
FM 2499 (Long Prairie Rd.) at Chaparral Ln.	S-6	375,000	153,575	-	-	153,575	153,575
Garden Ridge Blvd. at Forest Vista Rd.	S-7	275,000	112,622	-	-	112,622	112,622
FM 2499 (Long Prairie Rd.) at Northshore Blvd.	S-8	275,000	112,622	-	-	112,622	112,622
FM 2499 (Long Prairie Rd.) at Aberdeen Dr.	S-9	380,000	155,622	-	-	155,622	155,622
Lakeside Pkwy. at Silveron Blvd.	S-10	275,000	112,622	-	-	112,622	112,622
FM 2499 (Long Prairie Rd.) at Silveron Blvd.	S-11	390,000	159,718	-	-	159,718	159,718
Gerault Rd. at Old Gerault Rd.	S-12	275,000	112,622	-	-	112,622	112,622
Lakeside Pkwy. at Enterprise Dr.	S-13	275,000	112,622	-	-	112,622	112,622
Dixon Ln. at Morriss Rd.	I - 1	375,000	153,575	-	-	153,575	153,575
FM 2499 (Long Prairie Rd.) at Waketon Rd.	I - 2	1,473,000	603,242	-	-	603,242	603,242
FM 2499 (Long Prairie Rd.) at College Pkwy.	I - 3	333,000	136,374	-	-	136,374	136,374
Bruton Orand Blvd. at Cross Timbers Rd.	I - 4	187,500	76,787	-	-	76,787	76,787
Cross Timbers Rd. at Auburn Dr.	I - 5	375,000	153,575	-	-	153,575	153,575
Cross Timbers Rd. at FM 2499 (Long Prairie Rd.)	I - 6	492,000	201,490	-	-	201,490	201,490
Flower Mound Rd. at McKamy Creek Rd.	I - 7	336,000	137,603	-	-	137,603	137,603
Flower Mound Rd. at FM 2499 (Long Prairie Rd.)	I - 8	460,000	188,385	-	-	188,385	188,385
Flower Mound Rd. at Garden Ridge Blvd.	I - 9	375,000	153,575	-	-	153,575	153,575
FM 2499 (Long Prairie Rd.) at Lakeside Pkwy.	I - 10	375,000	153,575	-	-	153,575	153,575
Lakeside Pkwy. At Gerault Rd.	I-11	375,000	153,575	-	-	153,575	153,575
Roadway Impact Fee Project		$ 30,000	$ 30,000	$ -	$ -	$ 30,000	$ 30,000
Total		**$ 54,180,844**	**$ 22,206,549**	**$ 7,582,343**	**$ 705,179**	**$ 13,919,026**	**$ 22,206,549**

(1) 2020 Roadway Impact Fee Study, Appendix A

(2) Line 11 of the Max Fee Table Report

(3) Based on Contributions by Project and Planned Future Debt Financing

Town of Flower Mound 2020 Roadway Impact Fee Update

Credit Determination

Appendix E - Impact Fee Calculation Assumptions

Service Area A

2020 Vehicle Miles (All Service Areas) [1]	232,952	
Ten Year Growth in Vehicle Miles (Service Area A) [1]	39,780	
	10	years
Annual Growth in Vehicle Miles	3,978	

	1	2	3	4	5	6	7	8	9	10	Total
Total Debt Service Eligible for Impact Fees	$ 1,118,835	$ 1,045,734	$ 934,631	$ 818,622	$ 784,551	$ 738,670	$ 662,434	$ 554,429	$ 443,008	$ 432,061	$ 7,532,974
2020 Vehicle Miles plus Service Area A Growth	236,930	240,908	244,886	248,864	252,842	256,820	260,798	264,776	268,754	272,732	
Total Debt Service Eligible for Impact Fees per Vehicle Mile	$ 4.72	$ 4.34	$ 3.82	$ 3.29	$ 3.10	$ 2.88	$ 2.54	$ 2.09	$ 1.65	$ 1.58	
Annual Growth in Service Area A Vehicle Miles (Cumulative)	3,978	7,956	11,934	15,912	19,890	23,868	27,846	31,824	35,802	39,780	
Annual Ad Valorem Revenue Generated by Vehicle Miles for Debt Service Eligible for Impact Fees	$ 18,785	$ 34,535	$ 45,547	$ 52,342	$ 61,717	$ 68,650	$ 70,730	$ 66,638	$ 59,015	$ 63,019	$ 540,978

Credit Amount	**$ 540,978**

(1) Per Kimley-Horn Impact Fee Update

Town of Flower Mound 2020 Roadway Impact Fee Update

Impact Fee Calculation Assumptions

Appendix E - Impact Fee Calculation Assumptions

Service Area B

I. General Assumptions

Annual Interest Rate on Deposits [1]	0.438%
Annual Service Unit Growth [2]	105
Available Existing Fund Balance [3]	-

Portion of Projects Funded by Existing Debt [4]	$ 50,510
Non-debt Funded Project Cost [5]	1,708,877
Project Cost Funded Through New Debt [6]	1,489,312
Total Recoverable Project Cost [7]	$ 3,248,699

II. New Debt Issues Assumptions

Year	Principal [8]	Interest [9]	Term
1	$ 148,931	4.00%	20
2	148,931	4.00%	20
3	148,931	4.00%	20
4	148,931	4.00%	20
5	148,931	4.00%	20
6	148,931	4.00%	20
7	148,931	4.00%	20
8	148,931	4.00%	20
9	148,931	4.00%	20
10	148,931	4.00%	20
Total	$ 1,489,312		

III. Capital Expenditure Assumptions

Year	Annual Capital Expenditures [10]
1	$ 245,353
2	319,819
3	319,819
4	319,819
5	319,819
6	319,819
7	319,819
8	319,819
9	319,819
10	394,284
Total	$ 3,198,189

(1) Town's current earnings rate as of June 30, 2020
(2) Per Kimley-Horn Impact Fee Update
(3) Assumes all existing fund balances are already encumbered
(4) Per discussion with Town staff and files
(5) Unless specified in Town CIP, Assumes 50% of new project cost funded through sources other than debt
(6) Unless specified in Town CIP, Assumes 50% of new project costs funded through new debt issues
(7) Line 11 of the Max Fee Table Report
(8) Assumes new debt issued based on Town Input
(9) Estimated interest cost provided by Town's Financial Advisor
(10) Non-debt funded capital expenditures made in equal annual amounts. Assumes new debt proceeds expended over a 2-year timeframe with Year 10 bond proceeds spent in one year.

Town of Flower Mound 2020 Roadway Impact Fee Update

Debt Service and Expenses Summary
Appendix E - Impact Fee Calculation Assumptions
Service Area B

I. New Debt Service Detail

Year	Series 1	Series 2	Series 3	Series 4	Series 5	Series 6	Series 7	Series 8	Series 9	Series 10	Total Annual New Debt Service
1	$ 10,959	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 10,959
2	10,959	10,959	-	-	-	-	-	-	-	-	21,917
3	10,959	10,959	10,959	-	-	-	-	-	-	-	32,876
4	10,959	10,959	10,959	10,959	-	-	-	-	-	-	43,834
5	10,959	10,959	10,959	10,959	10,959	-	-	-	-	-	54,793
6	10,959	10,959	10,959	10,959	10,959	10,959	-	-	-	-	65,752
7	10,959	10,959	10,959	10,959	10,959	10,959	10,959	-	-	-	76,710
8	10,959	10,959	10,959	10,959	10,959	10,959	10,959	10,959	-	-	87,669
9	10,959	10,959	10,959	10,959	10,959	10,959	10,959	10,959	10,959	-	98,628
10	10,959	10,959	10,959	10,959	10,959	10,959	10,959	10,959	10,959	10,959	109,586
11	10,959	10,959	10,959	10,959	10,959	10,959	10,959	10,959	10,959	10,959	109,586
12	10,959	10,959	10,959	10,959	10,959	10,959	10,959	10,959	10,959	10,959	109,586
13	10,959	10,959	10,959	10,959	10,959	10,959	10,959	10,959	10,959	10,959	109,586
14	10,959	10,959	10,959	10,959	10,959	10,959	10,959	10,959	10,959	10,959	109,586
15	10,959	10,959	10,959	10,959	10,959	10,959	10,959	10,959	10,959	10,959	109,586
16	10,959	10,959	10,959	10,959	10,959	10,959	10,959	10,959	10,959	10,959	109,586
17	10,959	10,959	10,959	10,959	10,959	10,959	10,959	10,959	10,959	10,959	109,586
18	10,959	10,959	10,959	10,959	10,959	10,959	10,959	10,959	10,959	10,959	109,586
19	10,959	10,959	10,959	10,959	10,959	10,959	10,959	10,959	10,959	10,959	109,586
20	10,959	10,959	10,959	10,959	10,959	10,959	10,959	10,959	10,959	10,959	109,586
21	-	10,959	10,959	10,959	10,959	10,959	10,959	10,959	10,959	10,959	98,628
22	-	-	10,959	10,959	10,959	10,959	10,959	10,959	10,959	10,959	87,669
23	-	-	-	10,959	10,959	10,959	10,959	10,959	10,959	10,959	76,710
24	-	-	-	-	10,959	10,959	10,959	10,959	10,959	10,959	65,752
25	-	-	-	-	-	10,959	10,959	10,959	10,959	10,959	54,793
26	-	-	-	-	-	-	10,959	10,959	10,959	10,959	43,834
27	-	-	-	-	-	-	-	10,959	10,959	10,959	32,876
28	-	-	-	-	-	-	-	-	10,959	10,959	21,917
29	-	-	-	-	-	-	-	-	-	10,959	$ 10,959
	$ 219,172	$ 219,172	$ 219,172	$ 219,172	$ 219,172	$ 219,172	$ 219,172	$ 219,172	$ 219,172	$ 219,172	$ 2,191,723

Town of Flower Mound 2020 Roadway Impact Fee Update

Debt Service and Expenses Summary

Appendix E - Impact Fee Calculation Assumptions

II. Summary of Annual Expenses

Year	New Annual Debt Service[1]	Annual Capital Expenditures[2]	Annual Bond Proceeds[2]	Existing Annual Debt Service[3]	Annual Credit[4]	Total Expense
Prev						
1	$ 10,959	$ 245,353	$ (148,931)	$ 7,419	$ (8)	$ 114,791
2	21,917	319,819	(148,931)	6,897	(26)	199,676
3	32,876	319,819	(148,931)	6,122	(52)	209,834
4	43,834	319,819	(148,931)	5,315	(88)	219,949
5	54,793	319,819	(148,931)	5,054	(134)	230,600
6	65,752	319,819	(148,931)	4,713	(189)	241,164
7	76,710	319,819	(148,931)	4,171	(253)	251,516
8	87,669	319,819	(148,931)	3,417	(326)	261,648
9	98,628	319,819	(148,931)	2,640	(407)	271,748
10	109,586	394,284	(148,931)	2,533	(501)	356,971
11	109,586	-	-	2,382	-	111,968
12	109,586	-	-	2,250	-	111,836
13	109,586	-	-	2,249	-	111,835
14	109,586	-	-	2,256	-	111,842
15	109,586	-	-	2,071	-	111,657
16	109,586	-	-	2,048	-	111,634
17	109,586	-	-	1,800	-	111,386
18	109,586	-	-	1,570	-	111,156
19	109,586	-	-	744	-	110,330
20	109,586	-	-	367	-	109,954
21	98,628	-	-	-	-	98,628
22	87,669	-	-	-	-	87,669
23	76,710	-	-	-	-	76,710
24	65,752	-	-	-	-	65,752
25	54,793	-	-	-	-	54,793
26	43,834	-	-	-	-	43,834
27	32,876	-	-	-	-	32,876
28	21,917	-	-	-	-	21,917
29	10,959	-	-	-	-	10,959
	$ 2,191,723	$ 3,198,189	$ (1,489,312)	$ 66,017	$ (1,984)	$ 3,964,633

(1) Appendix E - Service Area B, Page 2

(2) Appendix E - Service Area B, Page 1

(3) Eligible Outstanding Debt Funded Projects Percent of General Projects Debt Issuance times total outstanding tax-supported annual debt service

(4) Appendix E - Service Area B, Page 7

Town of Flower Mound 2020 Roadway Impact Fee Update

Revenue Test

Appendix E - Impact Fee Calculation Assumptions

Service Area B

Year	Impact Fee	Service Units	Impact Fee Revenue	Annual Expenses	Sub-Total	Accumulated Interest	Estimated Fund Balance
Initial							$ -
1	$ 3,706	105	$ 387,277	114,791	$ 272,486	$ 597	273,082
2	3,706	105	387,277	199,676	187,600	1,607	462,290
3	3,706	105	387,277	209,834	177,443	2,413	642,146
4	3,706	105	387,277	219,949	167,327	3,179	812,653
5	3,706	105	387,277	230,600	156,676	3,903	973,231
6	3,706	105	387,277	241,164	146,113	4,583	1,123,927
7	3,706	105	387,277	251,516	135,761	5,220	1,264,908
8	3,706	105	387,277	261,648	125,629	5,815	1,396,353
9	3,706	105	387,277	271,748	115,529	6,369	1,518,250
10	3,706	105	387,277	356,971	30,305	6,716	1,555,272
11	-	-	-	111,968	(111,968)	6,567	1,449,870
12	-	-	-	111,836	(111,836)	6,106	1,344,140
13	-	-	-	111,835	(111,835)	5,642	1,237,947
14	-	-	-	111,842	(111,842)	5,177	1,131,282
15	-	-	-	111,657	(111,657)	4,710	1,024,336
16	-	-	-	111,634	(111,634)	4,242	916,944
17	-	-	-	111,386	(111,386)	3,772	809,330
18	-	-	-	111,156	(111,156)	3,301	701,475
19	-	-	-	110,330	(110,330)	2,831	593,976
20	-	-	-	109,954	(109,954)	2,361	486,384
21	-	-	-	98,628	(98,628)	1,914	389,670
22	-	-	-	87,669	(87,669)	1,515	303,516
23	-	-	-	76,710	(76,710)	1,161	227,967
24	-	-	-	65,752	(65,752)	855	163,070
25	-	-	-	54,793	(54,793)	594	108,871
26	-	-	-	43,834	(43,834)	381	65,418
27	-	-	-	32,876	(32,876)	215	32,756
28	-	-	-	21,917	(21,917)	95	10,935
29	-	-	-	10,959	(10,959)	24	-
			3,872,766	3,964,633		91,866	

Town of Flower Mound 2020 Roadway Impact Fee Update

Impact Fee Calculation

Appendix E - Impact Fee Calculation Assumptions

Service Area B

Year	Number of Years to End of Period	Future Value Escalation Interest Rate Factor	Future Value Escalation Recovery Fee Factor	Annual Service Units Actual	Annual Service Units Escalated	Annual Expense Actual	Annual Expense Escalated
1	29	1.1326	1.0000	105	118	$ 114,791	$ 130,018
2	28	1.1277	1.0000	105	118	199,676	225,177
3	27	1.1228	1.0000	105	117	209,834	235,600
4	26	1.1179	1.0000	105	117	219,949	245,880
5	25	1.1130	1.0000	105	116	230,600	256,663
6	24	1.1082	1.0000	105	116	241,164	267,250
7	23	1.1033	1.0000	105	115	251,516	277,506
8	22	1.0985	1.0000	105	115	261,648	287,426
9	21	1.0937	1.0000	105	114	271,748	297,220
10	20	1.0890	1.0000	105	114	356,971	388,729
11	19	1.0842	1.0000	-	-	111,968	121,398
12	18	1.0795	1.0000	-	-	111,836	120,725
13	17	1.0748	1.0000	-	-	111,835	120,198
14	16	1.0701	1.0000	-	-	111,842	119,682
15	15	1.0654	1.0000	-	-	111,657	118,962
16	14	1.0608	1.0000	-	-	111,634	118,419
17	13	1.0562	1.0000	-	-	111,386	117,641
18	12	1.0515	1.0000	-	-	111,156	116,886
19	11	1.0470	1.0000	-	-	110,330	115,511
20	10	1.0424	1.0000	-	-	109,954	114,615
21	9	1.0378	1.0000	-	-	98,628	102,361
22	8	1.0333	1.0000	-	-	87,669	90,590
23	7	1.0288	1.0000	-	-	76,710	78,921
24	6	1.0243	1.0000	-	-	65,752	67,352
25	5	1.0199	1.0000	-	-	54,793	55,881
26	4	1.0154	1.0000	-	-	43,834	44,510
27	3	1.0110	1.0000	-	-	32,876	33,237
28	2	1.0066	1.0000	-	-	21,917	22,061
29	1	1.0022	1.0000	-	-	10,959	10,983
					1,161	3,964,633	4,301,401

Total Escalated Expense for Entire Period	$	4,301,401
Total Escalated Service Units		1,161
Impact Fee for Service Area B	**$**	**3,706**

Town of Flower Mound 2020 Roadway Impact Fee Update

Impact Fee Project Funding

Appendix E - Impact Fee Calculation Assumptions

Service Area B

Impact Fee Project Name[1]	Impact Fee Project No. [1]	Cost in Service Area [1]	Impact Fee Recoverable Cost [2]	Debt Funded [3] Existing	Debt Funded [3] Proposed	Non-Debt Funded [3]	Impact Fee Recoverable Cost
Roadway Improvements - Service Area B							
Flower Mound Rd	B-1	$ 680,380	$ 124,891	$ 50,510	$ -	$ 74,381	$ 124,891
Red Rock/Shiloh Connector	B-2	6,845,000	1,256,474	-	628,237	628,237	1,256,474
Scenic /Flower Mound Connector	B-3	3,067,000	562,981	-	281,491	281,491	562,981
Shiloh Rd/Lusk Ln Connector	B-4	3,945,000	724,148	-	362,074	362,074	724,148
Shiloh Rd/Lusk Ln Connector	B-5	1,805,500	331,419	-	165,710	165,710	331,419
Simmons Rd	A-19,B-6	564,395	103,601	-	51,800	51,800	103,601
Signal Installation And Intersection Improvements							
Bruton Orand Blvd. at Quail Run Rd.	S-2	137,500	25,240	-	-	25,240	25,240
Bruton Orand Blvd. at Cross Timbers Rd.	I - 4	115,000	21,110	-	-	21,110	21,110
Cross Timbers Rd. at Flower Mound Rd.	I-12	375,000	68,835	-	-	68,835	68,835
Roadway Impact Fee Project		$ 30,000	$ 30,000	$ -	$ -	$ 30,000	$ 30,000
Total		**$ 17,564,775**	**$ 3,248,699**	**$ 50,510**	**$ 1,489,312**	**$ 1,708,877**	**$ 3,248,699**

(1) 2020 Roadway Impact Fee Study, Appendix A

(2) Line 11 of the Max Fee Table Report

(3) Based on Contributions by Project and Planned Future Debt Financing

Town of Flower Mound 2020 Roadway Impact Fee Update

Credit Determination

Appendix E - Impact Fee Calculation Assumptions

Service Area B

2020 Vehicle Miles (All Service Areas) [1]	232,952	
Ten Year Growth in Vehicle Miles (Service Area B) [1]	1,045	
	10	years
Annual Growth in Vehicle Miles	105	

	1	2	3	4	5	6	7	8	9	10	Total
Total Debt Service Eligible for Impact Fees	$ 18,377	$ 28,814	$ 38,998	$ 49,150	$ 59,847	$ 70,465	$ 80,881	$ 91,086	$ 101,268	$ 112,119	$ 651,004
2020 Vehicle Miles plus Service Area B Growth	233,057	233,161	233,266	233,370	233,475	233,579	233,684	233,788	233,893	233,997	
Total Debt Service Eligible for Impact Fees per Vehicle Mile	$ 0.08	$ 0.12	$ 0.17	$ 0.21	$ 0.26	$ 0.30	$ 0.35	$ 0.39	$ 0.43	$ 0.48	
Annual Growth in Service Area B Vehicle Miles (Cumulative)	105	209	314	418	523	627	732	836	941	1,045	
Annual Ad Valorem Revenue Generated by Vehicle Miles for Debt Service Eligible for Impact Fees	$ 8	$ 26	$ 52	$ 88	$ 134	$ 189	$ 253	$ 326	$ 407	$ 501	$ 1,984

Credit Amount	**$ 1,984**

(1) Per Kimley-Horn Impact Fee Update

Town of Flower Mound 2020 Roadway Impact Fee Update

Impact Fee Calculation Assumptions

Appendix E - Impact Fee Calculation Assumptions

Service Area C

I. General Assumptions

Annual Interest Rate on Deposits [1]	0.438%
Annual Service Unit Growth [2]	3,271
Available Existing Fund Balance [3]	-

Portion of Projects Funded by Existing Debt [4]	$ -
Non-debt Funded Project Cost [5]	45,872,556
Project Cost Funded Through New Debt [6]	45,017,974
Total Recoverable Project Cost [7]	$ 90,890,530

II. New Debt Issues Assumptions

Year	Principal [8]	Interest [9]	Term
1	$ 4,501,797	4.00%	20
2	4,501,797	4.00%	20
3	4,501,797	4.00%	20
4	4,501,797	4.00%	20
5	4,501,797	4.00%	20
6	4,501,797	4.00%	20
7	4,501,797	4.00%	20
8	4,501,797	4.00%	20
9	4,501,797	4.00%	20
10	4,501,797	4.00%	20
Total	$ 45,017,974		

III. Capital Expenditure Assumptions

Year	Annual Capital Expenditures [10]
1	$ 6,838,154
2	9,089,053
3	9,089,053
4	9,089,053
5	9,089,053
6	9,089,053
7	9,089,053
8	9,089,053
9	9,089,053
10	11,339,952
Total	$ 90,890,530

(1) Town's current earnings rate as of June 30, 2020
(2) Per Kimley-Horn Impact Fee Update
(3) Assumes all existing fund balances are already encumbered
(4) Per discussion with Town staff and files
(5) Unless specified in Town CIP, Assumes 50% of new project cost funded through sources other than debt
(6) Unless specified in Town CIP, Assumes 50% of new project costs funded through new debt issues
(7) Line 11 of the Max Fee Table Report
(8) Assumes new debt issued based on Town Input
(9) Estimated interest cost provided by Town's Financial Advisor
(10) Non-debt funded capital expenditures made in equal annual amounts. Assumes new debt proceeds expended over a 2-year timeframe with Year 10 bond proceeds spent in one year.

Town of Flower Mound 2020 Roadway Impact Fee Update

Debt Service and Expenses Summary
Appendix E - Impact Fee Calculation Assumptions
Service Area C

I. New Debt Service Detail

Year	Series 1	Series 2	Series 3	Series 4	Series 5	Series 6	Series 7	Series 8	Series 9	Series 10	Total Annual New Debt Service
1	$ 331,250	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 331,250
2	331,250	331,250	-	-	-	-	-	-	-	-	662,500
3	331,250	331,250	331,250	-	-	-	-	-	-	-	993,750
4	331,250	331,250	331,250	331,250	-	-	-	-	-	-	1,325,001
5	331,250	331,250	331,250	331,250	331,250	-	-	-	-	-	1,656,251
6	331,250	331,250	331,250	331,250	331,250	331,250	-	-	-	-	1,987,501
7	331,250	331,250	331,250	331,250	331,250	331,250	331,250	-	-	-	2,318,751
8	331,250	331,250	331,250	331,250	331,250	331,250	331,250	331,250	-	-	2,650,001
9	331,250	331,250	331,250	331,250	331,250	331,250	331,250	331,250	331,250	-	2,981,251
10	331,250	331,250	331,250	331,250	331,250	331,250	331,250	331,250	331,250	331,250	3,312,501
11	331,250	331,250	331,250	331,250	331,250	331,250	331,250	331,250	331,250	331,250	3,312,501
12	331,250	331,250	331,250	331,250	331,250	331,250	331,250	331,250	331,250	331,250	3,312,501
13	331,250	331,250	331,250	331,250	331,250	331,250	331,250	331,250	331,250	331,250	3,312,501
14	331,250	331,250	331,250	331,250	331,250	331,250	331,250	331,250	331,250	331,250	3,312,501
15	331,250	331,250	331,250	331,250	331,250	331,250	331,250	331,250	331,250	331,250	3,312,501
16	331,250	331,250	331,250	331,250	331,250	331,250	331,250	331,250	331,250	331,250	3,312,501
17	331,250	331,250	331,250	331,250	331,250	331,250	331,250	331,250	331,250	331,250	3,312,501
18	331,250	331,250	331,250	331,250	331,250	331,250	331,250	331,250	331,250	331,250	3,312,501
19	331,250	331,250	331,250	331,250	331,250	331,250	331,250	331,250	331,250	331,250	3,312,501
20	331,250	331,250	331,250	331,250	331,250	331,250	331,250	331,250	331,250	331,250	3,312,501
21	-	331,250	331,250	331,250	331,250	331,250	331,250	331,250	331,250	331,250	2,981,251
22	-	-	331,250	331,250	331,250	331,250	331,250	331,250	331,250	331,250	2,650,001
23	-	-	-	331,250	331,250	331,250	331,250	331,250	331,250	331,250	2,318,751
24	-	-	-	-	331,250	331,250	331,250	331,250	331,250	331,250	1,987,501
25	-	-	-	-	-	331,250	331,250	331,250	331,250	331,250	1,656,251
26	-	-	-	-	-	-	331,250	331,250	331,250	331,250	1,325,001
27	-	-	-	-	-	-	-	331,250	331,250	331,250	993,750
28	-	-	-	-	-	-	-	-	331,250	331,250	662,500
29	-	-	-	-	-	-	-	-	-	331,250	$ 331,250
	$ 6,625,003	$ 6,625,003	$ 6,625,003	$ 6,625,003	$ 6,625,003	$ 6,625,003	$ 6,625,003	$ 6,625,003	$ 6,625,003	$ 6,625,003	$ 66,250,027

Town of Flower Mound 2020 Roadway Impact Fee Update

Debt Service and Expenses Summary

Appendix E - Impact Fee Calculation Assumptions

II. Summary of Annual Expenses

Year	New Annual Debt Service[1]	Annual Capital Expenditures[2]	Annual Bond Proceeds[2]	Existing Annual Debt Service[3]	Annual Credit[4]	Total Expense
Prev						
1	$ 331,250	$ 6,838,154	$ (4,501,797)	$ -	$ (4,587)	$ 2,663,020
2	662,500	9,089,053	(4,501,797)	-	(18,099)	5,231,657
3	993,750	9,089,053	(4,501,797)	-	(40,174)	5,540,832
4	1,325,001	9,089,053	(4,501,797)	-	(70,471)	5,841,785
5	1,656,251	9,089,053	(4,501,797)	-	(108,666)	6,134,841
6	1,987,501	9,089,053	(4,501,797)	-	(154,452)	6,420,305
7	2,318,751	9,089,053	(4,501,797)	-	(207,538)	6,698,469
8	2,650,001	9,089,053	(4,501,797)	-	(267,648)	6,969,609
9	2,981,251	9,089,053	(4,501,797)	-	(334,518)	7,233,989
10	3,312,501	11,339,952	(4,501,797)	-	(407,900)	9,742,756
11	3,312,501	-	-	-	-	3,312,501
12	3,312,501	-	-	-	-	3,312,501
13	3,312,501	-	-	-	-	3,312,501
14	3,312,501	-	-	-	-	3,312,501
15	3,312,501	-	-	-	-	3,312,501
16	3,312,501	-	-	-	-	3,312,501
17	3,312,501	-	-	-	-	3,312,501
18	3,312,501	-	-	-	-	3,312,501
19	3,312,501	-	-	-	-	3,312,501
20	3,312,501	-	-	-	-	3,312,501
21	2,981,251	-	-	-	-	2,981,251
22	2,650,001	-	-	-	-	2,650,001
23	2,318,751	-	-	-	-	2,318,751
24	1,987,501	-	-	-	-	1,987,501
25	1,656,251	-	-	-	-	1,656,251
26	1,325,001	-	-	-	-	1,325,001
27	993,750	-	-	-	-	993,750
28	662,500	-	-	-	-	662,500
29	331,250	-	-	-	-	331,250
	$ 66,250,027	$ 90,890,530	$ (45,017,974)	$ -	$ (1,614,052)	$ 110,508,531

(1) Appendix E - Service Area C, Page 2

(2) Appendix E - Service Area C, Page 1

(3) Eligible Outstanding Debt Funded Projects Percent of General Projects Debt Issuance times total outstanding tax-supported annual debt service

(4) Appendix E - Service Area C, Page 7

Town of Flower Mound 2020 Roadway Impact Fee Update

Revenue Test

Appendix E - Impact Fee Calculation Assumptions

Service Area C

Year	Impact Fee	Service Units	Impact Fee Revenue	Annual Expenses	Sub-Total	Accumulated Interest	Estimated Fund Balance
Initial							$ -
1	$ 3,294	3,271	$ 10,776,209	$ 2,663,020	$ 8,113,190	$ 17,768	8,130,958
2	3,294	3,271	10,776,209	5,231,657	5,544,552	47,756	13,723,266
3	3,294	3,271	10,776,209	5,540,832	5,235,377	71,573	19,030,217
4	3,294	3,271	10,776,209	5,841,785	4,934,424	94,159	24,058,799
5	3,294	3,271	10,776,209	6,134,841	4,641,368	115,542	28,815,710
6	3,294	3,271	10,776,209	6,420,305	4,355,904	135,752	33,307,366
7	3,294	3,271	10,776,209	6,698,469	4,077,741	154,817	37,539,923
8	3,294	3,271	10,776,209	6,969,609	3,806,600	172,761	41,519,285
9	3,294	3,271	10,776,209	7,233,989	3,542,221	189,612	45,251,118
10	3,294	3,271	10,776,209	9,742,756	1,033,454	200,463	46,485,034
11	-	-	-	3,312,501	(3,312,501)	196,350	43,368,883
12	-	-	-	3,312,501	(3,312,501)	182,701	40,239,083
13	-	-	-	3,312,501	(3,312,501)	168,993	37,095,574
14	-	-	-	3,312,501	(3,312,501)	155,224	33,938,297
15	-	-	-	3,312,501	(3,312,501)	141,395	30,767,191
16	-	-	-	3,312,501	(3,312,501)	127,506	27,582,196
17	-	-	-	3,312,501	(3,312,501)	113,556	24,383,250
18	-	-	-	3,312,501	(3,312,501)	99,544	21,170,293
19	-	-	-	3,312,501	(3,312,501)	85,472	17,943,263
20	-	-	-	3,312,501	(3,312,501)	71,337	14,702,099
21	-	-	-	2,981,251	(2,981,251)	57,866	11,778,714
22	-	-	-	2,650,001	(2,650,001)	45,787	9,174,500
23	-	-	-	2,318,751	(2,318,751)	35,106	6,890,856
24	-	-	-	1,987,501	(1,987,501)	25,829	4,929,184
25	-	-	-	1,656,251	(1,656,251)	17,963	3,290,896
26	-	-	-	1,325,001	(1,325,001)	11,512	1,977,408
27	-	-	-	993,750	(993,750)	6,485	990,142
28	-	-	-	662,500	(662,500)	2,886	330,528
29	-	-	-	331,250	(331,250)	722	(0)
			107,762,092	110,508,531		2,746,439	

Town of Flower Mound 2020 Roadway Impact Fee Update

Impact Fee Calculation

Appendix E - Impact Fee Calculation Assumptions

Service Area C

Year	Number of Years to End of Period	Future Value Escalation Interest Rate Factor	Future Value Escalation Recovery Fee Factor	Annual Service Units Actual	Annual Service Units Escalated	Annual Expense Actual	Annual Expense Escalated
1	29	1.1326	1.0000	3,271	3,705	$ 2,663,020	$ 3,016,268
2	28	1.1277	1.0000	3,271	3,689	5,231,657	5,899,794
3	27	1.1228	1.0000	3,271	3,673	5,540,832	6,221,205
4	26	1.1179	1.0000	3,271	3,657	5,841,785	6,530,510
5	25	1.1130	1.0000	3,271	3,641	6,134,841	6,828,207
6	24	1.1082	1.0000	3,271	3,625	6,420,305	7,114,772
7	23	1.1033	1.0000	3,271	3,609	6,698,469	7,390,653
8	22	1.0985	1.0000	3,271	3,594	6,969,609	7,656,277
9	21	1.0937	1.0000	3,271	3,578	7,233,989	7,912,050
10	20	1.0890	1.0000	3,271	3,562	9,742,756	10,609,501
11	19	1.0842	1.0000	-	-	3,312,501	3,591,461
12	18	1.0795	1.0000	-	-	3,312,501	3,575,799
13	17	1.0748	1.0000	-	-	3,312,501	3,560,205
14	16	1.0701	1.0000	-	-	3,312,501	3,544,679
15	15	1.0654	1.0000	-	-	3,312,501	3,529,221
16	14	1.0608	1.0000	-	-	3,312,501	3,513,831
17	13	1.0562	1.0000	-	-	3,312,501	3,498,507
18	12	1.0515	1.0000	-	-	3,312,501	3,483,251
19	11	1.0470	1.0000	-	-	3,312,501	3,468,061
20	10	1.0424	1.0000	-	-	3,312,501	3,452,937
21	9	1.0378	1.0000	-	-	2,981,251	3,094,091
22	8	1.0333	1.0000	-	-	2,650,001	2,738,309
23	7	1.0288	1.0000	-	-	2,318,751	2,385,572
24	6	1.0243	1.0000	-	-	1,987,501	2,035,859
25	5	1.0199	1.0000	-	-	1,656,251	1,689,151
26	4	1.0154	1.0000	-	-	1,325,001	1,345,427
27	3	1.0110	1.0000	-	-	993,750	1,004,670
28	2	1.0066	1.0000	-	-	662,500	666,859
29	1	1.0022	1.0000	-	-	331,250	331,976
					36,335	110,508,531	119,689,104

Total Escalated Expense for Entire Period	$	119,689,104
Total Escalated Service Units		36,335
Impact Fee for Service Area C	**$**	**3,294**

Town of Flower Mound 2020 Roadway Impact Fee Update

Impact Fee Project Funding

Appendix E - Impact Fee Calculation Assumptions

Service Area C

Impact Fee Project Name[1]	Impact Fee Project No. [1]	Cost in Service Area [1]	Impact Fee Recoverable Cost [2]	Debt Funded [3] Existing	Debt Funded [3] Proposed	Non-Debt Funded [3]	Impact Fee Recoverable Cost
Roadway Improvements - Service Area C							
CrossTimbers/Dunham Connector	C-1	$ 3,483,000	$ 3,217,945	$ -	$ 1,608,973	$ 1,608,973	$ 3,217,945
CrossTimbers/US 377 Connector1	C-2	22,005,000	20,330,430	-	10,165,215	10,165,215	20,330,430
CrossTimbers/US 377 Connector2	C-3	6,090,000	5,626,554	-	2,813,277	2,813,277	5,626,554
Denton Creek Blvd	C-4	28,014,000	25,882,148	-	12,941,074	12,941,074	25,882,148
Denton Creek Blvd	C-5	1,435,000	1,325,797	-	662,899	662,899	1,325,797
Denton Creek Blvd	C-6	4,323,000	3,994,022	-	1,997,011	1,997,011	3,994,022
Stonecrest Rd	C-7	3,137,000	2,898,276	-	1,449,138	1,449,138	2,898,276
Stonecrest Rd	C-8	5,437,000	5,023,247	-	2,511,623	2,511,623	5,023,247
UMAB 1	C-9	4,444,000	4,105,814	-	2,052,907	2,052,907	4,105,814
UMAB2	C-10	3,512,000	3,244,738	-	1,622,369	1,622,369	3,244,738
Urban Collector 1	C-11	10,995,000	10,158,286	-	5,079,143	5,079,143	10,158,286
Urban Collector 1	C-12	4,577,000	4,228,692	-	2,114,346	2,114,346	4,228,692
Signal Installation And Intersection Improvements							
US 377 at Canyon Falls Dr.	S-14	205,000	189,400	-	-	189,400	189,400
Cross Timbers Rd. at Canyon Falls Dr.	S-15	137,500	127,036	-	-	127,036	127,036
Cross Timbers Rd. at Denton Creek Blvd.	S-16	275,000	254,073	-	-	254,073	254,073
Cross Timbers Rd. at Cross Timbers/US 377 Conne	S-17	275,000	254,073	-	-	254,073	254,073
Roadway Impact Fee Project		$ 30,000	$ 30,000	$ -	$ -	$ 30,000	$ 30,000
Total		**$ 98,374,500**	**$ 90,890,530**	**$ -**	**$ 45,017,974**	**$ 45,872,556**	**$ 90,890,530**

(1) 2020 Roadway Impact Fee Study, Appendix A

(2) Line 11 of the Max Fee Table Report

(3) Based on Contributions by Project and Planned Future Debt Financing from Town CIP where available

Town of Flower Mound 2020 Roadway Impact Fee Update

Credit Determination

Appendix E - Impact Fee Calculation Assumptions

Service Area C

2020 Vehicle Miles (All Service Areas) [1]	232,952	
Ten Year Growth in Vehicle Miles (Service Area C) [1]	32,714	
	10	years
Annual Growth in Vehicle Miles	3,271	

	1	2	3	4	5	6	7	8	9	10	Total
Total Debt Service Eligible for Impact Fees	$ 331,250	$ 662,500	$ 993,750	$ 1,325,001	$ 1,656,251	$ 1,987,501	$ 2,318,751	$ 2,650,001	$ 2,981,251	$ 3,312,501	$ 18,218,757
2020 Vehicle Miles plus Service Area C Growth	236,223	239,495	242,766	246,038	249,309	252,580	255,852	259,123	262,395	265,666	
Total Debt Service Eligible for Impact Fees per Vehicle Mile	$ 1.40	$ 2.77	$ 4.09	$ 5.39	$ 6.64	$ 7.87	$ 9.06	$ 10.23	$ 11.36	$ 12.47	
Annual Growth in Service Area C Vehicle Miles (Cumulative)	3,271	6,543	9,814	13,086	16,357	19,628	22,900	26,171	29,443	32,714	
Annual Ad Valorem Revenue Generated by Vehicle Miles for Debt Service Eligible for Impact Fees	$ 4,587	$ 18,099	$ 40,174	$ 70,471	$ 108,666	$ 154,452	$ 207,538	$ 267,648	$ 334,518	$ 407,900	$ 1,614,052

Credit Amount **$ 1,614,052**

(1) Per Kimley-Horn Impact Fee Update

THE TOWN OF FLOWERMOUND TEXAS

2020

Water

Impact Fee Update

Town of Flower Mound, Texas

Kimley»Horn

Town of Flower Mound, Texas

Water Impact Fee Update Report for 2020

November 2020

FINAL

Prepared for:
Town of Flower Mound

Prepared by:
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11-5-20

Project Number: 061000201

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1.0 Introduction

The Town of Flower Mound retained the services of Kimley-Horn and Associates, Inc. (Kimley-Horn) for the purpose of updating the impact fees for water system improvements required to serve new development. The existing fees were adopted by the Town in 2015 in accordance with Chapter 395 of the *Local Government Code* (impact fees), which requires a city imposing impact fees to update the land-use assumptions and capital improvements plan upon which the fees are calculated.

The purpose of this report is to satisfy the requirements of the law and provide the Town with an updated impact fee capital improvements plan and associated impact fees.

For convenience and reference, the following is excerpted from Chapter 395 of the code:

(a) The political subdivision shall use qualified professionals to prepare the capital improvements plan and to calculate the impact fee. The capital improvements plan must contain specific enumeration of the following items:

(1) a description of the existing capital improvements within the service area and the costs to upgrade, update, improve, expand, or replace the improvements to meet existing needs and usage and stricter safety, efficiency, environmental, or regulatory standards, which shall be prepared by a qualified professional engineer licensed to perform such professional engineering services in this state;

(2) an analysis of the total capacity, the level of current usage, and commitments for usage of capacity of the existing capital improvements, which shall be prepared by a qualified professional engineer licensed to perform such professional engineering services in this state;

(3) a description of all or the parts of the capital improvements or facility expansions and their costs necessitated by and attributable to new development in the service area based on the approved land use assumptions, which shall be prepared by a qualified professional engineer licensed to perform such professional engineering services in this state;

(4) a definitive table establishing the specific level or quantity of use, consumption, generation, or discharge of a service unit for each category of capital improvements or facility expansions and an equivalency or conversion table establishing the ratio of a service unit to various types of land uses, including but not limited to residential, commercial, and industrial;

(5) the total number of projected service units necessitated by and attributable to new development within the service area based on the approved land use assumptions and calculated in accordance with generally accepted engineering or planning criteria;

(6) the projected demand for capital improvements or facility expansions required by new service units projected over a reasonable period of time, not to exceed 10 years; and

(7) a plan for awarding:

i. a credit for the portion of ad valorem tax and utility service revenues generated by new service unit during the program period that is used for the payment of improvements, including the payment of debt, that are included in the capital improvements plan; or

ii. in the alternative, a credit equal to 50 percent of the total project cost of implementing the capital improvements plan.

The impact fee study includes information from the *2015 Water Master Plan Update* completed by Kimley-Horn in May 2015 and from the 2015 Water Model Update completed by Kimley-Horn in 2020. The impact fees are based on recommended capital improvements and population growth projections outlined in the *2020 Water Master Plan Update.*

The study process was comprised of three tasks:

A. Land Use Assumptions

This task involved evaluating the existing and future land use plan and projecting future growth for the Town. Kimley-Horn worked with Town staff to determine future projections. The growth projections were then used to project wastewater flow throughout the Town.

B. Impact Fee Capital Improvements Plan

This task involved the evaluation of the water capital improvements plan outlined in the 2020 Water System Master Plan Amendments and discussion with Town staff to identify projects that will be constructed in the 10-year planning window and that meet the design criteria to be impact fee eligible.

C. Impact Fee Analysis and Report

This task included calculating the additional service units, service unit equivalents, and credit reduction. These values were then used to determine the impact fee per service unit and the maximum assessable impact fee by meter size.

1.2 Executive Summary

This study was performed to update the Town of Flower Mound's Water System Impact Fees. Water system analysis and the Water System Master Plan are important tools for facilitating orderly growth of the water system and for providing adequate facilities that promote economic development in the Town of Flower Mound. The implementation of an impact fee is a way to shift a portion of the burden of paying for new facilities onto new development.

Elements of the water system, including storage facilities, pumping facilities, and the distribution network itself, were evaluated against industry standards as outlined in the Design Criteria section of this report. Information related to the growth of the Town was obtained from the 2020 Land Use Assumptions Update. Also included in the water system are the proposed improvements for the reuse water system detailed in the Denton Creek Reuse Water Master Plan and Lakeside Reuse Master Plan.

Water system improvements necessary to serve 10-year (2030) and ultimate system needs were evaluated. Typically, infrastructure improvements are sized beyond the 10-year requirements; however, Texas' impact fee law (Chapter 395) only allows recovery of costs to serve the 10-year planning period. For example, the projected cost to serve the ultimate system needs is $146,975,635. Of this, $39,158,083 is projected to be eligible for recovery through impact fees within the next 10 years. A portion of the remainder can be assessed as the planning window extends beyond 2030 and as the impact fees are updated in the future.

The impact fee law defines a service unit as follows: *"'Service Unit' means a standardized measure of consumption attributable to an individual unit of development calculated in accordance with generally accepted engineering or planning standards and based on historical data and trends applicable to the political subdivision in which the individual unit of development is located during the previous 10 years."* Therefore, the Town of Flower Mound defines a service unit as a unit of development that consumes the amount of water requiring a standard 5/8"x3/4" meter. For a development that requires a different size meter, a service unit equivalent is established at a multiplier based on its capacity with respect to the 5/8"x3/4" meter. The equivalency factor and associated impact fee by meter size is shown in Table 1.1.

Based on the Town's 10-year growth projections and the associated demand (consumption) values, 9,000 additional service units will need water by the year 2030. Based on the additional service units and the recoverable capital improvements plans, the Town may assess a maximum of $4,676 per service unit.

Table 1.1 Maximum Assessable Water Impact Fee for Commonly Used Meters

Meter Size	Maximum Continuous Operating Capacity (gpm)**	Service Unit Equivalent	Maximum Assessable Fee ($)
5/8"x 3/4" PD	10	1	4,676
3/4" PD	15	1.5	7,013
1" PD	25	2.5	11,689
1 1/2" PD	50	5	23,378
2" PD	80	8	37,405
2" Compound	80	8	37,405
2" Turbine	160	16	74,809
3" Compound	175	17.5	81,823
3" Turbine	350	35	163,646
4" Compound	300	30	140,268
4" Turbine	650	65	303,913
6" Compound	675	67.5	315,602
6" Turbine	1,400	140	654,582
8" Compound	900	90	420,803
8" Turbine	2,400	240	1,122,141
10" Turbine	3,500	350	1,636,455

*PD = Positive Displacement Meter (typical residential meter)
**Operating capacities obtained from American Water Works Associate (AWWA) C700-15, C701-15, and C702-19. Turbine and Compound meter flows are based on Class II (in-line) meters.

1.3 Design Criteria

A. Water Transmission Lines

Water transmission lines shall be sized to maintain the following pressure requirements:

- Peak hour demand with a minimum pressure of 35 psi;
- Peak day demand plus fire flow with a minimum pressure of 20 psi.

B. Storage Tanks

The Texas Commission on Environmental Quality (TCEQ) has established criteria for ground and elevated water storage. These criteria address volume and height requirements only. The layout of the distribution system, location of the storage facilities, and the interaction with the high service pumps and booster pumps affect the amount of storage necessary for the most efficient and reliable operation of the system.

1. Ground Storage

Ground storage serves two functions:

- Equalization for differing feed rates between water supply and pumping output to the system; and
- Emergency capacity in the event of temporary loss of water supply.

Generally, ground storage facilities are located at water supply points or at each pump station within the water distribution system. Suggested storage capacities are established based on several criteria. There are specific requirements of the TCEQ. These criteria are detailed later in this section. Although ground and elevated storage facilities perform separate functions within the system, both are aimed at decreasing the impact of demand fluctuations. Their capacities are established based on knowledge of how demand varies seasonally and daily.

2. Elevated Storage

Elevated storage serves three purposes:

- Functionally, elevated storage equalizes the pumping rate to compensate for daily variations in demand and to maintain a fairly constant pumping rate (usually referred to as operational storage), or a pumping rate that conforms to the requirements of the electrical rate structure.
- Provides pressure maintenance and protection against surges created by instantaneous demand, such as fire flow and main breaks, and instantaneous change in supply, such as pumps turning on and off.
- Maintains a reserve capacity for fire protection and pressure maintenance in case of power failure to one or more pump stations. Sufficient storage should be maintained to provide four hours of fire flow demand during a loss of power to the pump station.

Suggested storage capacities are established by the TCEQ. Adequate operational storage is established by determining the required volume to equalize the daily fluctuations in flow during the maximum day demand, plus the reserve volume required for fire protection.

The minimum requirements for storage, according to Chapter 290 of the Texas Administrative Code, are as follows:

- Total Storage: equal to 200 gallons per connection.
- Elevated Storage: equal to 100 gallons per connection; or

- Elevated Storage: equal to 200 gallons per connection for a firm pumping capacity reduction from 2.0 gallons per minute (gpm) per connection to 0.6 gpm.

C. Pump Stations

Pumping capacities must provide the maximum day demand or the peak hour demand required by the water system of the suggested capacities established by the TCEQ. Pumping capacity should supply the maximum demand with sufficient redundancy to allow for the largest pump at the pump station to be out of service. This is known as firm pumping capacity.

Each pump station or pressure plane must have two or more pumps that have a total capacity of 2.0 gpm per connection or have a total capacity of at least 1,000 gpm and the ability to meet peak hour demand with the largest pump out of service, whichever is less. If the system provides elevated storage capacity of 200 gallons per connection, two service pumps with a minimum combined capacity of 0.6 gpm per connection are required.

D. Water Demand

The criteria used for projecting the water demands for the water system were derived from the 2020 Water System Master Plan Amendments.

Table 1.2 Demand by Land Use Type

Land Use Type	Demand (gpd/acre)	Demand (gpd/dwelling unit)
Single Family Residential Unit	-	500
Conservation District Residential	350	-
Multifamily	3,000	-
Mixed Use	4,000	-
Lakeside area with residential	3,050	-
Office	2,625	-
Retail	1,000	-
Commercial	2,025	-
Industrial	1,300	-
Park	250	-
Utility	200	-
Hospital	3,000	-
School	2,000	-
Nature's Best	1,500	-
Bridlewood	2,250	-
Wellington	2,000	-
MI Windows	1,800	-
Lifetime Fitness	2,500	-
Inventrust	3,500	-

1.4 Impact Fee Capital Improvements Plan

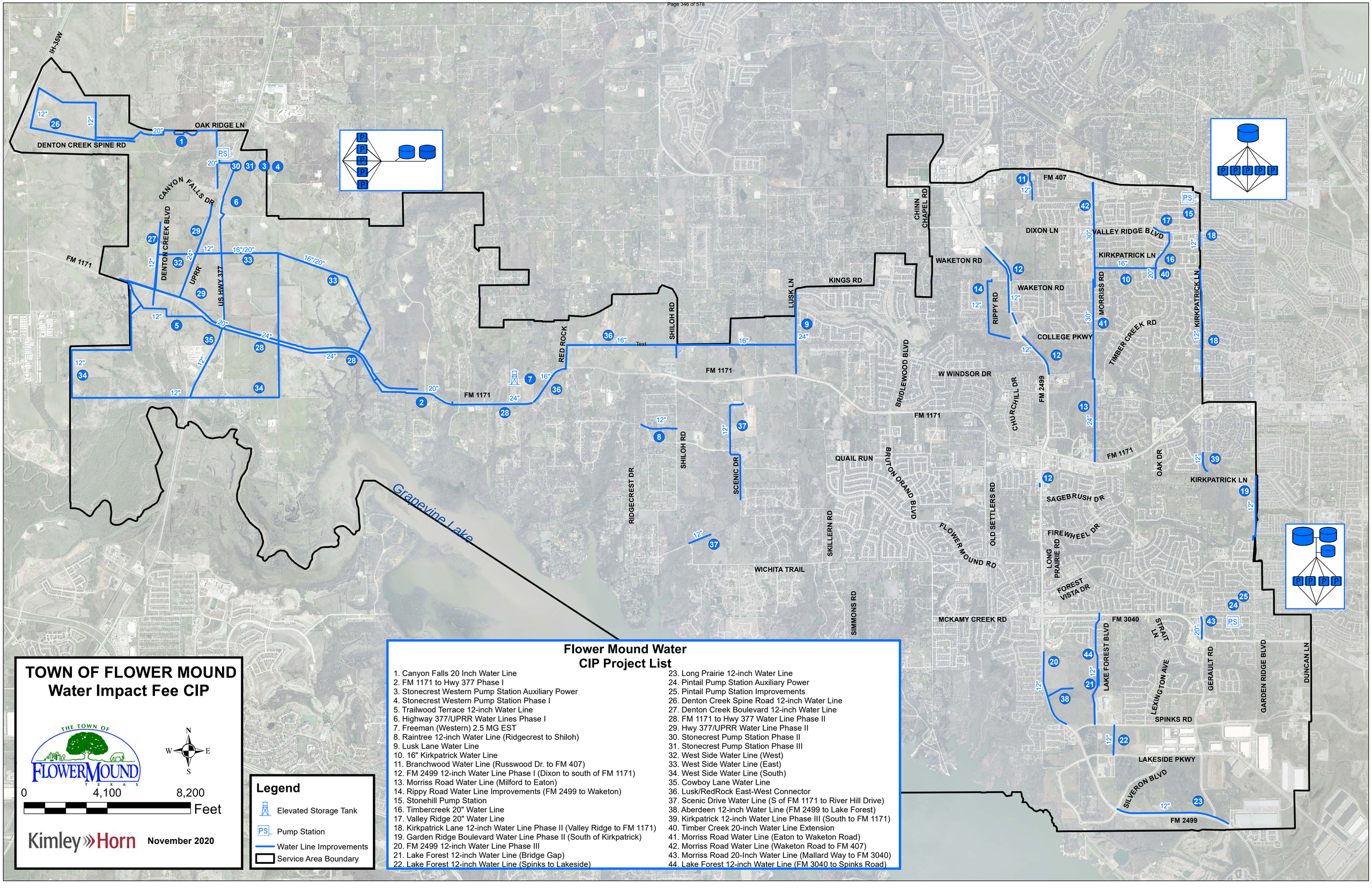
Kimley-Horn assisted the Town with an update to the water model. The update included an evaluation of existing and future demands along with the required infrastructure needed to serve future needs. The model updated recommended system improvements to accommodate growth through the Town's build-out. Also included in the recommended project list are the improvements associated with the Denton Creek and Lakeside reuse water system.. In 2015 the Town adopted the Denton Creek Reuse Water System Master Plan for proposed reuse improvements. Only the first three phases of the Lakeside Reuse projects are included due to their estimated construction dates per Alan Plummer's 2018 Report. The reuse water systems will offset some of the future potable water demand needs and thus is a benefit to the overall water system of the Town.

Sixty-eight (68) projects have been determined to be eligible for recoverable cost through impact fees over the next 10 years. The total of these projects is $146,975,635. The projected total recoverable amount through impact fees is $39,158,083. After financing costs are added and the credit calculation is completed, $42,080,278 is recoverable through impact fees serving the 10-year system needs. These impact fee improvements are shown in Table 1.3 and illustrated in Figure 1.1 and Figure 1.2.

Table 1.3 Water Impact Fee Capital Improvements Project Cost and 10-Year Recoverable Cost

Proj #	Description	2020 Required Capacity (Percent Utilized)	2030 Required Capacity (Percent Utilized)	2020-2030 Required Capacity (Percent Utilized)	Total Project Cost	2030 Projected Recoverable Cost
1	Canyon Falls 20-inch Water Line	0%	24%	24%	$1,746,339	$419,121
2	Highway 377/UPRR Water Lines Phase I	16%	24%	8%	$2,296,815	$183,745
3	Stonecrest Pump Station Auxiliary Power	7%	22%	15%	$2,550,000	$382,500
4	Stonecrest (Western) Pump Station Phase I	13%	51%	38%	$11,944,788	$4,539,019
5	Trailwood Terrace 12-inch Water Line	32%	100%	68%	$325,099	$221,067
6	FM 1171 to Hwy 377 Phase I	32%	92%	60%	$2,810,382	$1,686,229
7	Freeman (Western) 2.5 MG EST	16%	46%	30%	$5,613,340	$1,684,002
8	Raintree 12-inch Water Line (Ridgecrest to Shiloh)	50%	100%	50%	$308,757	$154,379
9	Lusk Lane Water Line	80%	100%	20%	$1,060,864	$212,173
10	16" Kirkpatrick Water Line	69%	91%	22%	$570,341	$125,475
11	Branchwood Water Line (Russwood Dr. to FM 407)	50%	100%	50%	$55,222	$27,611
12	FM 2499 12-inch Water Line Phase I (Dixon to south of FM 1171)	0%	100%	100%	$1,157,783	$1,157,783
13	Morriss Road Water Line Phase II (FM 1171 to Eaton)	0%	91%	91%	$2,722,500	$2,477,475
14	Rippy Road Water Line Improvements (FM 2499 to Waketon)	5%	100%	95%	$750,000	$712,500
15	Stonehill Pump Station	85%	97%	12%	$9,487,799	$1,138,536
16	Timber Creek 20" Water Line	67%	91%	24%	$542,164	$130,119
17	Valley Ridge 20" Water Line	67%	91%	24%	$208,441	$50,026
18	Kirkpatrick Lane 12-inch Water Line Phase II (Valley Ridge to FM 1171)	0%	100%	100%	$1,079,971	$1,079,971
19	Garden Ridge Boulevard Water Line Phase II (South of Kirkpatrick)	0%	100%	100%	$743,844	$743,844
20	FM 2499 12-inch Water Line Phase III	5%	82%	77%	$762,253	$586,935
21	Lake Forest 12-inch Water Line (Bridge Gap)	50%	100%	50%	$127,571	$63,786
22	Lake Forest 12-inch Water Line (Spinks to Lakeside)	38%	82%	44%	$109,252	$48,071
23	Long Prairie 12-inch Water Line	5%	82%	77%	$828,903	$638,255
24	Pintail Pump Station Auxiliary Power	85%	100%	15%	$1,269,857	$190,479
25	Pintail Pump Station Capacity Improvements	31%	82%	51%	$300,000	$153,000
26	Denton Creek Spine Road 12-inch Water Line	0%	18%	18%	$3,210,000	$577,800
27	Denton Creek Boulevard 12-inch Water Line	0%	24%	24%	$1,300,000	$312,000
28	FM 1171 to Hwy 377 Water Line Phase II	0%	24%	24%	$6,400,000	$1,536,000
29	Hwy 377/UPRR Water Line Phase II	0%	24%	24%	$3,410,000	$818,400
30	Stonecrest Pump Station Phase II	0%	5%	5%	$5,460,000	$273,000
31	Stonecrest Pump Station Phase III	0%	5%	5%	$790,000	$39,500
32	West Side Water Line (West)	0%	24%	24%	$1,560,000	$374,400
33	West Side Water Line (East)	0%	5%	5%	$4,850,000	$242,500
34	West Side Water Line (South)	0%	36%	36%	$4,550,000	$1,638,000
35	Cowboy Lane Water Line	0%	36%	36%	$930,000	$334,800
36	Lusk/Red RockEast-West Connector	0%	5%	5%	$4,250,000	$212,500
37	Scenic Drive Water Line (S of FM 1171 to River Hill Drive)	0%	5%	5%	$1,430,000	$71,500
38	Aberdeen 12-inch Water Line (FM 2499 to Lake Forest)	40%	82%	42%	$207,187	$87,019
39	Kirkpatrick 12-inch Water Line Phase III (South to FM 1171)	0%	100%	100%	$450,000	$450,000
40	Timber Creek 20-inch Water Line Extension	0%	91%	91%	$490,000	$445,900
41	Morriss Road Water Line Phase III (Eaton to Waketon Road)	0%	91%	91%	$3,140,000	$2,857,400

Proj #	Description	2020 Required Capacity (Percent Utilized)	2030 Required Capacity (Percent Utilized)	2020-2030 Required Capacity (Percent Utilized)	Total Project Cost	2030 Projected Recoverable Cost
42	Morriss Road Water Line Phase IV (Waketon Road to FM 407)	0%	91%	91%	$4,190,000	$3,812,900
43	Morriss Road 20-Inch Water Line (Mallard Way to FM 3040)	0%	91%	91%	$720,000	$655,200
44	Lake Forest 12-inch Water Line (FM 3040 to Spinks Road)	0%	5%	5%	$1,760,000	$88,000
45	2020 Water Master Plan and Impact Fee Updates	0%	100%	100%	$179,500	$179,500
46	Reuse Pump Station and Ground Storage Tanks	0%	15%	15%	$7,900,000	$1,185,000
47	Reuse Transmission Lines	0%	15%	15%	$1,770,000	$265,500
48	FM 1171/Hwy 377 Central Reuse Loop	0%	15%	15%	$1,570,000	$235,500
49	FM 1171 West Reuse Line	0%	15%	15%	$1,570,000	$235,500
50	FM 1171 East Reuse Line	0%	15%	15%	$1,360,000	$204,000
51	Highway 377 Central Reuse Line	0%	15%	15%	$1,290,000	$193,500
52	Canyon Falls Drive Reuse Line	0%	15%	15%	$1,320,000	$198,000
53	Denton Creek Boulevard South Reuse Line	0%	15%	15%	$1,060,000	$159,000
54	UPRR Central Reuse Line	0%	15%	15%	$960,000	$144,000
55	Stonecrest Road Reuse Line	0%	15%	15%	$770,000	$115,500
56	Canyon Falls North Reuse Line	0%	15%	15%	$680,000	$102,000
57	East Reuse Lines	0%	15%	15%	$2,320,000	$348,000
58	Reuse Central Connector	0%	15%	15%	$630,000	$94,500
59	Denton Creek North Distribution Line	0%	15%	15%	$870,000	$130,500
60	Denton Creek Spine Road Reuse Lines	0%	15%	15%	$1,110,000	$166,500
61	Hwy 377 North Reuse Line	0%	15%	15%	$440,000	$66,000
62	Dunham/Hayes Reuse Loop	0%	15%	15%	$900,000	$135,000
63	Cowboy Lane Reuse Line	0%	15%	15%	$770,000	$115,500
64	Southwest Reuse Line	0%	15%	15%	$800,000	$120,000
65	Lakeside Business District - Water Reuse Master Plan	0%	100%	100%	$126,663	$126,663
66	Lakeside Reuse Phase I	0%	5%	5%	$9,030,000	$451,500
67	Lakeside Reuse Phase II	0%	5%	5%	$5,450,000	$272,500
68	Lakeside Reuse Phase III	0%	5%	5%	$5,630,000	$281,500
	Total				$146,975,635	$39,158,083



TOWN OF FLOWER MOUND
Water Impact Fee CIP

THE TOWN OF FLOWER MOUND TEXAS

N W E S

0 4,100 8,200 Feet

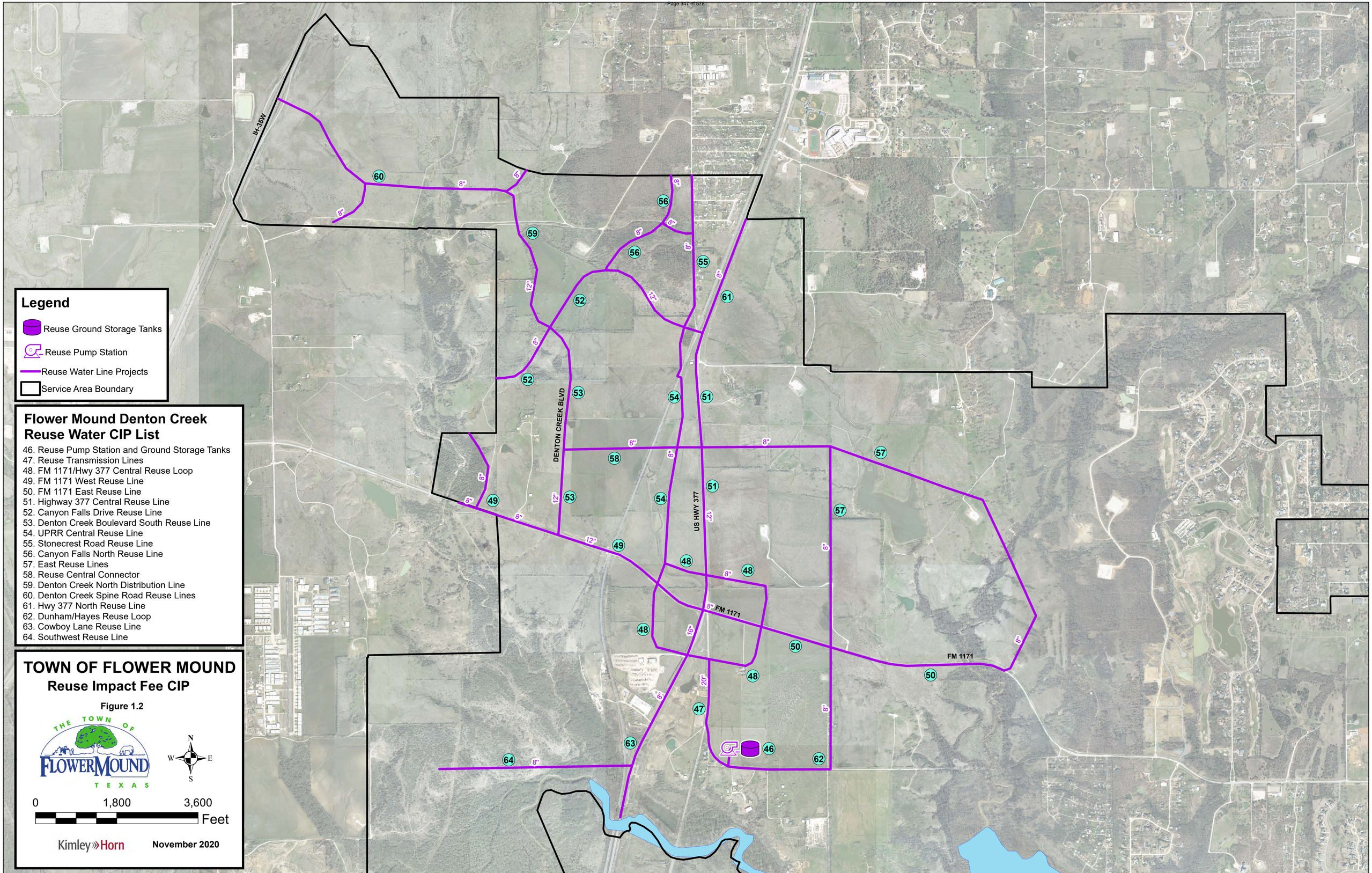
Kimley»Horn November 2020

Legend

- Elevated Storage Tank
- PS Pump Station
- Water Line Improvements
- Service Area Boundary

Flower Mound Water CIP Project List

1. Canyon Falls 20 Inch Water Line
2. FM 1171 to Hwy 377 Phase I
3. Stonecrest Western Pump Station Auxiliary Power
4. Stonecrest Western Pump Station Phase I
5. Trailwood Terrace 12-inch Water Line
6. Highway 377/UPRR Water Lines Phase I
7. Freeman (Western) 2.5 MG EST
8. Raintree 12-inch Water Line (Ridgecrest to Shiloh)
9. Lusk Lane Water Line
10. 16" Kirkpatrick Water Line
11. Branchwood Water Line (Russwood Dr. to FM 407)
12. FM 2499 12-inch Water Line Phase I (Dixon to south of FM 1171)
13. Morriss Road Water Line (Milford to Eaton)
14. Rippy Road Water Line Improvements (FM 2499 to Waketon)
15. Stonehill Pump Station
16. Timbercreek 20" Water Line
17. Valley Ridge 20" Water Line
18. Kirkpatrick Lane 12-inch Water Line Phase II (Valley Ridge to FM 1171)
19. Garden Ridge Boulevard Water Line Phase II (South of Kirkpatrick)
20. FM 2499 12-inch Water Line Phase III
21. Lake Forest 12-inch Water Line (Bridge Gap)
22. Lake Forest 12-inch Water Line (Spinks to Lakeside)
23. Long Prairie 12-inch Water Line
24. Pintail Pump Station Auxiliary Power
25. Pintail Pump Station Improvements
26. Denton Creek Spine Road 12-inch Water Line
27. Denton Creek Boulevard 12-inch Water Line
28. FM 1171 to Hwy 377 Water Line Phase II
29. Hwy 377/UPRR Water Line Phase II
30. Stonecrest Pump Station Phase II
31. Stonecrest Pump Station Phase III
32. West Side Water Line (West)
33. West Side Water Line (East)
34. West Side Water Line (South)
35. Cowboy Lane Water Line
36. Lusk/RedRock East-West Connector
37. Scenic Drive Water Line (S of FM 1171 to River Hill Drive)
38. Aberdeen 12-inch Water Line (FM 2499 to Lake Forest)
39. Kirkpatrick 12-inch Water Line Phase III (South to FM 1171)
40. Timber Creek 20-inch Water Line Extension
41. Morriss Road Water Line (Eaton to Waketon Road)
42. Morriss Road Water Line (Waketon Road to FM 407)
43. Morriss Road 20-Inch Water Line (Mallard Way to FM 3040)
44. Lake Forest 12-inch Water Line (FM 3040 to Spinks Road)



Legend

- Reuse Ground Storage Tanks
- Reuse Pump Station
- Reuse Water Line Projects
- Service Area Boundary

Flower Mound Denton Creek Reuse Water CIP List

46. Reuse Pump Station and Ground Storage Tanks
47. Reuse Transmission Lines
48. FM 1171/Hwy 377 Central Reuse Loop
49. FM 1171 West Reuse Line
50. FM 1171 East Reuse Line
51. Highway 377 Central Reuse Line
52. Canyon Falls Drive Reuse Line
53. Denton Creek Boulevard South Reuse Line
54. UPRR Central Reuse Line
55. Stonecrest Road Reuse Line
56. Canyon Falls North Reuse Line
57. East Reuse Lines
58. Reuse Central Connector
59. Denton Creek North Distribution Line
60. Denton Creek Spine Road Reuse Lines
61. Hwy 377 North Reuse Line
62. Dunham/Hayes Reuse Loop
63. Cowboy Lane Reuse Line
64. Southwest Reuse Line

TOWN OF FLOWER MOUND

Reuse Impact Fee CIP

Figure 1.2

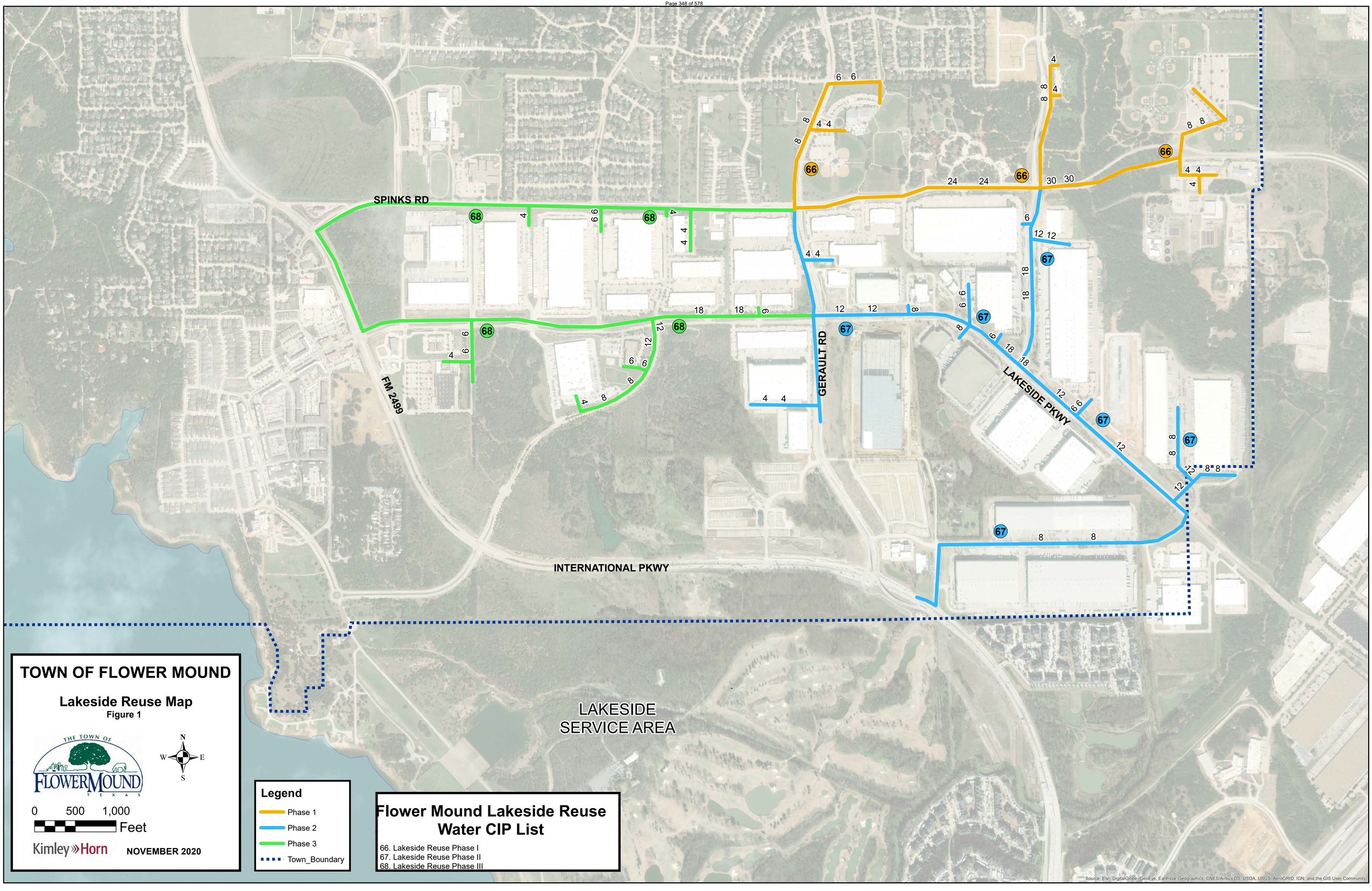
THE TOWN OF FLOWER MOUND TEXAS

N W E S

0 1,800 3,600 Feet

Kimley»Horn

November 2020


SPINKS RD
FM 2499
GERAULT RD
LAKESIDE PKWY
INTERNATIONAL PKWY
LAKESIDE
SERVICE AREA
66
67
68
TOWN OF FLOWER MOUND
Lakeside Reuse Map
Figure 1
THE TOWN OF FLOWER MOUND TEXAS
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Kimley»Horn
NOVEMBER 2020
Legend
Phase 1
Phase 2
Phase 3
Town_Boundary
Flower Mound Lakeside Reuse Water CIP List
66. Lakeside Reuse Phase I
67. Lakeside Reuse Phase II
68. Lakeside Reuse Phase III
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

A. Project Descriptions

1. Canyon Falls 20-inch Water Line
   Approximately 7,600 LF of 20-inch water line along Stonecrest Road through the Canyon Falls development from Stonecrest Road to Prairie Ridge Road. This water line is being constructed in phases as part of a Development Agreement in which the Town reimburses the developer for the waterline progress as it is completed.

Project Cost	$1,746,339
Recoverable Cost	$419,121

2. Highway 377/UPRR Water Lines Phase I
   Approximately 6,500 LF of 30-inch water line was constructed along Highway 377 from FM 1171 to Stonecrest Road, in addition to 2,700 LF of 36-inch water line along Highway 377, from Stonecrest Road to the proposed Western (Stonecrest) Pump Station. This line will provide the primary transmission from the Stonecrest Pump Station to the western portion of the Town.

Project Cost	$2,296,815
Recoverable Cost	$183,745

3. Stonecrest Pump Station Auxiliary Power
   This project includes installing a 1,500 kW generator and associated items to provide auxiliary power to the Stonecrest Pump Station.

Project Cost	$2,550,000
Recoverable Cost	$382,500

4. Stonecrest (Western) Pump Station Phase I
   The Stonecrest Pump Station was constructed in 2015. The first phase of the pump station included 5 MG of ground storage capacity and a firm pumping capacity of approximately 12,000 gpm. The station is currently oversized to meet future demands; therefore, a portion of the tank cost is recoverable through impact fees.

Project Cost	$11,944,788
Recoverable Cost	$4,539,019

5. Trailwood Terrace 12-inch Water Line
   This project included approximately 8,000 LF of 12-inch water line from Highway 377 west to Canyon Falls Drive. This project also included approximately 150 LF of 20-inch water line installed by bore under FM 1171 on the west side of Highway 377. This water line provides service to Trailwood Terrace and other developments in the west part of Town. The cost shown is the Town's reimbursement to the developer based on the required upsize of the waterline from 8" to 12" as established in the corresponding Developer Agreement.

Project Cost	$325,099
Recoverable Cost	$221,067

6. FM 1171 to Hwy 377 Phase I
   Approximately 13,100 LF of 20-inch water line was constructed along the north side of FM 1171, from Tour 18 Drive to Highway 377 and connects to the 30-inch water line constructed as part of the Highway 377/UPRR Water Line Phase I project. This water line will serve as primary transmission from the Stonecrest Pump Station to the western portion of the Town.

Project Cost	$2,810,382
Recoverable Cost	$1,686,229

7. Freeman (Western) 2.5 MG EST
   Construction of this 2.5 MG EST near the intersection of FM 1171 and High Road in western Flower Mound was completed in 2013. The tank is currently oversized to meet projected demands; therefore, a portion of the tank cost is recoverable through impact fees.

Project Cost	$5,613,340
Recoverable Cost	$1,684,002

8. Raintree 12-inch Water Line (Ridgecrest to Shiloh)
   Approximately 1,800 LF of 12-inch water line was constructed along Raintree Place, from Ridgecrest Drive to Shiloh Road.

Project Cost	$308,757
Recoverable Cost	$154,379

9. Lusk Lane Water Line
   Lusk Lane water line was completed and placed into service in the fall of 2009. The project consisted of 4,000 LF of 20-inch/24-inch water line which was constructed along Lusk Lane, from Kings Roads to FM 1171. The line completes an additional transmission loop from the 24-inch water line on Kings Road to the existing 20-inch water line on FM 1171.

Project Cost	$1,060,864
Recoverable Cost	$212,173

10. 16-inch Kirkpatrick Water Line
    Kirkpatrick water line was completed and placed into service in the spring of 2009. The project consisted of 4,700 LF of 16-inch water line along Kirkpatrick Lane, from Morriss Road to Timber Creek Road.

Project Cost	$570,341
Recoverable Cost	$125,475

11. Branchwood Water Line (Russwood Dr. to FM 407)
    Approximately 1,350 LF of 12-inch water line was constructed to connect the system along FM 407 to the existing 12-inch water line along Dixon Lane, approximately half way between FM 2499 and Morriss Road. The cost shown is the Town's reimbursement to the developer based on the required line upsize from 8" to 12" as established in the corresponding Developer Agreement.

Project Cost	$55,222
Recoverable Cost	$27,611

12. FM 2499 12-inch Water Line Phase I (Dixon to south of FM 1171)
    Approximately 7,560 LF of 12-inch water line is proposed along FM 2499 from south of the Robertson's Creek commercial development south to the Texas Presbyterian Hospital filling in gaps between existing water lines. An additional 140 LF of water line is proposed along FM 2499, south of FM 1171, closing a gap in the 12-inch loop south of FM 1171.

Project Cost	$1,157,783
Recoverable Cost	$1,157,783

13. Morriss Road Water Line Phase II (FM 1171 to Eaton)
    Approximately 100 LF of 20-inch, 3,900 LF of 24-inch, 800 LF of 30-inch, 150 LF of 8-inch, and 200 LF of 12-inch water line is proposed from FM 1171 to north of Eaton Street.

Project Cost	$2,722,500
Recoverable Cost	$2,477,475

14. Rippy Road Water Line Improvements (FM 2499 to Waketon)
    Approximately 1,400 LF of 12-inch water line has been constructed along Rippy Road from Waketon to Pecan Meadows. The remaining approximately 2,500 LF of 12-inch water line is proposed to be constructed along Rippy Road to connect this line to existing water mains in FM 2499.

Project Cost	$750,000
Recoverable Cost	$712,500

15. Stonehill Pump Station
    The Stonehill Pump Station was completed and placed into service in the fall of 2002. The pump station consists of 10 MG of ground storage and a firm pumping capacity of approximately 28,000 gpm. The station is currently oversized to meet future system needs; therefore, a portion of the station cost is recoverable through impact fees.

Project Cost	$9,487,799
Recoverable Cost	$1,138,536

16. Timber Creek 20-inch Water Line
    Approximately 1,930 LF of 20-inch water line was constructed along Timber Creek Road, beginning at Valley Ridge Boulevard and ending at Kirkpatrick Lane. The water line provides secondary transmission from the Stonehill Pump Station.

Project Cost	$542,164
Recoverable Cost	$130,119

17. Valley Ridge 20-inch Water Line
    Approximately 760 LF of 20-inch water line was constructed along Valley Ridge Boulevard, beginning at Stone Hill Farms Parkway and ending at Timber Creek Road. The water line provides secondary transmission from the Stonehill Pump Station.

Project Cost	$208,441
Recoverable Cost	$50,026

18. Kirkpatrick Lane 12-inch Water Line Phase II (Valley Ridge to FM 1171)
    Approximately 5,980 LF of 12-inch water line is proposed along the north-south leg of Kirkpatrick Lane, from the bend in Kirkpatrick Lane to the dead end of the existing 12-inch line in Kirkpatrick Lane.

Project Cost	$1,079,971
Recoverable Cost	$1,079,971

19. Garden Ridge Boulevard Water Line Phase II (South of Kirkpatrick)
    Approximately 3,200 LF of 12-inch water line is proposed along Garden Ridge Boulevard from Bellaire Boulevard to Ridgecreek Drive.

Project Cost	$743,844
Recoverable Cost	$743,844

20. FM 2499 12-inch Water Line Phase III
    Approximately 3,950 LF of 12-inch water line was constructed along FM 2499, between Sherri Lane and Spinks Road.

Project Cost	$762,253
Recoverable Cost	$586,935

21. Lake Forest 12-inch Water Line (Bridge Gap)
    Approximately 750 LF of 12-inch water line was constructed to close the gap located along Lake Forest Boulevard, south of Lincoln Court and north of Spinks Road.

Project Cost	$127,571
Recoverable Cost	$63,786

22. Lake Forest 12-inch Water Line (Spinks to Lakeside)
    Approximately 1,450 LF of 12-inch water line was constructed from Spinks Road to Lakeside Parkway. This water line was installed in an easement adjacent to an industrial development. This line is the first section of the parallel Lake Forest Water Line which provides secondary transmission to the Lakeside Business District to accommodate residential uses in the district.

Project Cost	$109,252
Recoverable Cost	$48,071

23. Long Prairie 12-inch Water Line
    Approximately 5,500 LF of 12-inch water line was constructed along Long Prairie Road, from Silveron Boulevard to Enterprise Drive. This line provides a second line along Long Prairie Road, preventing service lines from running under the roadway.

Project Cost	$828,903
Recoverable Cost	$638,255

24. Pintail Pump Station Auxiliary Power
This project included installing a 1,500 kW generator and associated items to provide auxiliary power to the Pintail Pump Station.

Project Cost	$1,269,857
Recoverable Cost	$190,479

25. Pintail Pump Station Capacity Improvements
This project included the replacement of one existing small pump with a larger pump along with necessary piping and valve improvements for larger pump and increased overall capacity. The total project cost for this project was $1,245,395; of that the Southgate Development contributed $945,395 per the development agreement. This $945,395 is not included in the project cost below because it is not a recoverable cost.

Project Cost	$300,000
Recoverable Cost	$153,000

26. Denton Creek Spine Road 12-inch Water Line
Approximately 14,300 LF of 12-inch water line is proposed for the far northwest portion of town, extending to Interstate Highway 35-W.

Project Cost	$3,210,000
Recoverable Cost	$577,800

27. Denton Creek Boulevard 12-inch Water Line
Approximately 5,000 LF of 12-inch water line is proposed along Denton Creek Boulevard. This line will extend from FM 1171 north through the Canyon Falls development where it will connect to an existing water line.

Project Cost	$1,300,000
Recoverable Cost	$312,000

28. FM 1171 to Hwy 377 Water Line Phase II
Approximately 12,600 LF of 24-inch water line is proposed along the south side of FM 1171 parallel to the existing 20-inch transmission line. The project would begin east of the Freeman Elevated Tank at High Road and extend west to Highway 377, where it will connect to the 20-inch water line proposed in the Highway 377/UPRR Water Line Phase II project. The line will serve as secondary transmission from the Stonecrest Pump Station to the western portion of the Town.

Project Cost	$6,400,000
Recoverable Cost	$1,536,000

29. Highway 377/UPRR Water Lines Phase II
Approximately 7,600 LF of 24-inch to 30-inch water line is proposed along Stonecrest Lane, adjacent to the Union Pacific Railroad, beginning south of Stonecrest Road and extending south to the intersection of the railroad and FM 1171, then continuing east to Highway 377. This line will provide secondary transmission from the Stonecrest Pump Station of the western portion of the Town.

Project Cost	$3,410,000

Recoverable Cost	$818,400

30. Stonecrest Pump Station Phase II
Phase II of the Stonecrest Pump Station will consist of an additional 5 MG of ground storage capacity and an additional fourth pump bringing the firm pumping capacity of the pump station to 18,000 gpm.

Project Cost	$5,460,000
Recoverable Cost	$273,000

31. Stonecrest Pump Station Phase III
Phase III of the Stonecrest Pump Station will consist of installing a fifth pump, bringing the station to its ultimate firm pumping capacity of approximately 24,000 gpm.

Project Cost	$790,000
Recoverable Cost	$39,500

32. West Side Water Line (West)
Approximately 3,000 LF of 12-inch water line connecting the system from the 30-inch water line along Highway 377 to Denton Creek Boulevard. This project also includes approximately 2,600 LF of 12-inch water line on the north side of FM 1171 from the future 20-inch water line at UPRR west to the Trailwood Terrace 12-inch Water Line near Canyon Falls Drive. These lines will comprise a portion of the distribution system in the west side of the Town.

Project Cost	$1,560,000
Recoverable Cost	$374,400

33. West Side Water Line (East)
Approximately 12,300 LF of 16-inch water line and 2,700 LF of 20-Inch water line is proposed north of FM 1171, east of Highway 377, and west of Tour 18 Drive.

Project Cost	$4,850,000
Recoverable Cost	$242,500

34. West Side Water Line (South)
Approximately 19,100 LF of looped, 12-inch water line is proposed south of FM 1171, eventually providing service to the southwest portion of the Town.

Project Cost	$4,550,000
Recoverable Cost	$1,638,000

35. Cowboy Lane Water Line
Approximately 3,800 LF of 12-inch water line is proposed to extend from the intersection of Highway 377 and FM 1171, southeast, to Cowboy Lane.

Project Cost	$930,000
Recoverable Cost	$334,800

36. Lusk/Red Rock East-West Connector
    Approximately 12,000 LF of 16-inch water line is proposed along the future Lusk/Red Rock East-West Connector as shown on the Master Thoroughfare Plan. It also includes roughly 3,500 LF of 16-inch water line along FM 1171, from Red Rock to the Freeman Elevated Tank. This line will provide secondary transmission to the western portion of the Town.

Project Cost	$4,250,000
Recoverable Cost	$212,500

37. Scenic Drive Water Line (S of FM 1171 to River Hill Drive)
    Approximately 5,700 LF of 12-inch water line is proposed along Scenic Drive, connecting to the existing 12-inch water line along Scenic Drive south of FM 1171 to River Hill Drive.

Project Cost	$1,430,000
Recoverable Cost	$71,500

38. Aberdeen 12-inch Water Line (FM 2499 to Lake Forest)
    Approximately 1,150 LF of 12-inch water line was constructed along Aberdeen Road, from Long Prairie Road (FM 2499) to Lake Forest Boulevard, north of Spinks Road. This line provides additional capacity from the system in Long Prairie Road, east, into the Lakeside Business District.

Project Cost	$207,187
Recoverable Cost	$87,019

39. Kirkpatrick Lane 12-inch Water Line Phase III (South of FM 1171)
    Approximately 1,000 LF of 12-inch water line is proposed to connect the 12-inch water line along Kirkpatrick Lane, south of Spanish Oak Drive, to the 12-inch water line along Bellaire Boulevard, east of Wager Drive.

Project Cost	$450,000
Recoverable Cost	$450,000

40. Timber Creek 20-inch Water Line Extension
    Approximately 550 LF of 20-Inch water line is proposed in Timber Creek Road from Kirkpatrick Lane to Colony Street. This line, which will parallel an existing 12-inch line, will connect the existing 16-inch lines in Kirkpatrick Lane and Colony Street and alleviate high velocities and headloss in the existing 12-inch line.

Project Cost	$490,000
Recoverable Cost	$445,900

41. Morriss Road Water Line Phase III (Eaton to Waketon Road)
    Approximately 4,400 LF of 30-inch water line in Morriss Road from Eaton to Waketon Road. This water line will replace the existing 20-inch water line in Morriss Road and provide transmission from Stonehill Pump Station.

Project Cost	$3,140,000
Recoverable Cost	$2,857,000

42. Morriss Road Water Line Phase IV (Waketon Road to FM 407)
Approximately 5,200 LF of 30-inch water line in Morriss Road from Waketon Road to FM 407. This water line will replace the existing 20-inch water line in Morriss Road and provide transmission from Stonehill Pump Station.

Project Cost	$4,190,000
Recoverable Cost	$3,812,900

43. Morriss Road Parallel 20-inch Water Line (Mallard Way to FM 3040)
Approximately 1,100 LF of 20-inch water line is proposed from Mallard Way to FM 3040. This line will parallel and existing 16-inch line and provide secondary transmission from Pintail Pump Station to the Lakeside Business District.

Project Cost	$720,000
Recoverable Cost	$655,200

44. Lake Forest 12-inch Water Line (FM 3040 to Spinks Road)
Approximately 5,600 LF of 12-inch water line is proposed extending from FM 3040 south to Spinks Road parallel to the existing 12-inch water line in Lake Forest Boulevard. This water line is the second section of the parallel Lake Forest 12-inch line and will provide secondary transmission to the Lakeside Business District to accommodate residential uses in the district.

Project Cost	$1,760,000
Recoverable Cost	$88,000

45. 2020 Water Master Plan and Impact Fee Updates
The major update to the Water Master Plan was performed in 2020. Based on projected future infrastructure needs, a Water Impact Fee Update was also completed to determine how much of the infrastructure costs may be recovered by the Town.

Project Cost	$179,500
Recoverable Cost	$179,500

46. Reuse Pump Station and Ground Storage Tanks
This project includes a pump station with a capacity of 4,500 gpm as well as two 2 MG ground storage tanks. Reuse water from the Trinity River Authority will be delivered to this site; the pump station will pressurize and distribute the reuse water throughout the reuse pipe network.

Project Cost	$7,900,000
Recoverable Cost	$1,185,000

47. Reuse Transmission Lines
Approximately 3,470 LF of 20-inch reuse water line and 1,090 LF of 16-inch reuse water line is proposed to provide primary distribution of reuse water from the Reuse Pump Station to the Town. The Reuse Transmission Lines connect directly to the FM 1171/Hwy 377 Central Reuse Loop, FM 1171 East and West Reuse Lines and the Hwy 377 Central Reuse Line.

Project Cost	$1,770,000
Recoverable Cost	$265,500

48. FM 1171/Hwy 377 Central Reuse Loop
    Approximately 7,630 LF of 8-inch reuse water line is proposed to provide reuse water to the area surrounding the intersection of Hwy 377 and FM 1171. This reuse line will also provide secondary transmission from the Reuse Pump Station to the FM 1171/Hwy 377 Central Reuse Loop, FM 1171 East and West Reuse Lines, Hwy 377 Central Reuse Line and the UPRR Central Reuse Line.

Project Cost	$1,570,000
Recoverable Cost	$235,500

49. FM 1171 West Reuse Line
    Approximately 3,700 LF of 12-inch reuse water line and 4,150 LF of 8-inch reuse water line is proposed to connect to the Reuse Transmission Line at Hwy 377 and FM 1171. The FM 1171 West Reuse Line will provide reuse water to FM 1171 west of Hwy 377 as well as Canyon Falls Drive north of FM 1171.

Project Cost	$1,570,000
Recoverable Cost	$235,500

50. FM 1171 East Reuse Line
    Approximately 6,900 LF of 8-inch reuse water line is proposed to provide reuse water along FM 1171 east of where it connects to the Reuse Transmission Line at Hwy 377. This reuse line will connect to the proposed East Reuse Lines north of FM 1171.

Project Cost	$1,360,000
Recoverable Cost	$204,000

51. Hwy 377 Central Reuse Line
    Approximately 6,170 LF of 12" reuse water line is proposed to connect to the Reuse Transmission Line and will provide reuse water north along Hwy 377 between FM 1171 and Canyon Falls Drive. The Hwy 377 Central Refuse Line provides reuse water to the East Reuse Lines and the Canyon Falls Drive Reuse Line.

Project Cost	$1,290,000
Recoverable Cost	$193,500

52. Canyon Falls Drive Reuse Line
    Approximately 4,560 LF of 12-inch reuse water line and 1,780 LF of 8-inch reuse water line is proposed to provide reuse water along Canyon Falls Drive west of Hwy 377 to the Town's service area boundary. The Canyon Falls Drive Reuse Line also provides reuse water to the Canyon Falls North Reuse Line.

Project Cost	$1,320,000
Recoverable Cost	$198,000

53. Denton Creek Boulevard South Reuse Line
    Approximately 4,770 LF of 12-inch reuse water line is proposed to connect to the FM 1171 West Reuse Line at Denton Creek Blvd. This reuse water line will provide reuse water along Denton Creek Blvd. north to Canyon Falls Drive.

Project Cost	$1,060,000
Recoverable Cost	$159,000

54. UPRR Central Reuse Line
Approximately 5,370 LF of 8-inch reuse water line is proposed to connect to the FM 1171/Hwy 377 Central Reuse Loop and will extend north to the connection with the Stonecrest Road Reuse Line at Canyon Falls Drive.

Project Cost	$960,000
Recoverable Cost	$144,000

55. Stonecrest Road Reuse Line
Approximately 3,400 LF of 8-inch reuse water line is proposed to provide reuse water along Stonecrest Road from Canyon Falls Drive to Oakridge Drive at the Town's north service area boundary.

Project Cost	$770,000
Recoverable Cost	$115,500

56. Canyon Falls North Reuse Line
Approximately 3,520 LF of 8-inch reuse water line is proposed to provide water to the area north of Canyon Falls Drive and west of Stonecrest Road.

Project Cost	$680,000
Recoverable Cost	$102,000

57. East Reuse Lines
Approximately 15,150 LF of 8-inch reuse water line is proposed to connect to the FM 1171 East Reuse Line east of Hwy 377 and also to the Hwy 377 Central Reuse Line north of FM 1171. This reuse water line will provide reuse water to the area of the Town north of FM 1171 and east of Hwy 377.

Project Cost	$2,320,000
Recoverable Cost	$348,000

58. Reuse Central Connector
Approximately 3,000 LF of 8-inch reuse water line is proposed to connect to the Hwy 377 Central Reuse Line north of FM 1171, where it will extend west and connect to the Denton Creek Blvd. South Reuse Line.

Project Cost	$630,000
Recoverable Cost	$94,500

59. Denton Creek North Distribution Line
Approximately 3,430 LF of 12-inch reuse water line and 660 LF of 8-inch reuse water line is proposed to connect to the Denton Creek Blvd. South Reuse Line and extend north along Denton Creek Blvd. until it connects to the Denton Creek Spine Road Reuse Line at the point where future Denton Creek Blvd. extends west.

Project Cost	$870,000
Recoverable Cost	$130,500

60. Denton Creek Spine Road Reuse Lines
    Approximately 7,130 LF of 8-inch reuse line is proposed to extend west from where it connects to the Denton Creek North Distribution Line until it reaches the Town's west service area boundary at Interstate Highway 35-W.

Project Cost	$1,110,000
Recoverable Cost	$166,500

61. Hwy 377 North Reuse Line
    Approximately 2,680 LF of 8-inch reuse water line is proposed to connect to the Hwy 377 Central Reuse Line and provide reuse water north along Hwy 377 to the north service area boundary at Oakridge Drive.

Project Cost	$440,000
Recoverable Cost	$66,000

62. Dunham/Hayes Reuse Loop
    Approximately 4,970 LF of 8-inch reuse water line is proposed to connect to the Reuse Transmission Line at Dunham Road. The reuse line will extend east to Hayes Road, where it will turn north and provide reuse water along Hayes Road south of FM 1171.

Project Cost	$900,000
Recoverable Cost	$135,000

63. Cowboy Lane Reuse Line
    Approximately 3,920 LF of 8-inch water line is proposed to provide water along Hwy 377 where it connects to the Reuse Transmission Line, south to the southern service area boundary. The Cowboy Lane Reuse Line also supplies reuse water to the Southwest Reuse Line.

Project Cost	$770,000
Recoverable Cost	$115,500

64. Southwest Reuse Line
    Approximately 4,270 LF of 8-inch reuse water line is proposed to connect to the Cowboy Lane Reuse Line south of Cowboy Lane. The Southwest Reuse Line will provide reuse water west of Hwy 377 near the southern service area boundary.

Project Cost	$800,000
Recoverable Cost	$120,000

65. Lakeside Business District – Water Reuse Master Plan
    The Lakeside Reuse Water Master Plan was performed in 2020. This Master Plan was created to determine recommendations for providing reclaimed water to irrigation customers in the Lakeside Business District area of the Town.

Project Cost	$126,663
Recoverable Cost	$126,663

66. Lakeside Reuse Phase I
    Approximately 15,0000 linear feet of proposed reclaimed water piping to connect to 26 existing irrigation meters and upgrades to the WWTP are proposed to provide reuse water to the Lakeside area near the Town's Wastewater Treatment facility. The proposed WWTP improvements constructed in Phase 1 include the transfer pump station, sodium hypochlorite feed system, temporary polyethylene storage tanks, and the reuse pump station.

Project Cost	$9,030,000
Recoverable Cost	$451,500

67. Lakeside Reuse Phase II
    Approximately 20,800 linear feet of proposed reclaimed water piping to connect to an additional 29 existing irrigation meters on commercial properties generally located along Lakeside Parkway, east of Gerault Road. Temporary storage tanks installed at the WWTP during Phase I are anticipated to be replaced with the first 1 MG covered storage tank and additional pumps are proposed to be installed at the Transfer and Reuse Pump Stations.

Project Cost	$5,450,000
Recoverable Cost	$272,500

68. Lakeside Reuse Phase III
    Approximately 18,900 linear feet of proposed reclaimed water piping to connect an additional 24 irrigation meters along Lakeside Parkway and Spinks Road between Gerault Road and Long Prairie Road. A second 1 MG covered storage tank is also proposed to be installed at the WWTP.

Project Cost	$5,630,000
Recoverable Cost	$281,500

1.5 Water Impact Fee Calculation

Chapter 395 of the Local Government Code defines a service unit as follows: *"'Service Unit' means a standardized measure of consumption attributable to an individual unit of development calculated in accordance with generally accepted engineering or planning standards and based on historical data and trends applicable to the political subdivision in which the individual unit of development is located during the previous 10 years."* Therefore, the Town of Flower Mound defines a service unit based on historical water usage over the past 10 years as compared to the estimated residential units. The residential unit is the development type that predominately uses a 5/8"x3/4" meter. The measure of consumption per service unit is based on a 5/8"x3/4" meter and the data is shown in Table 1.4.

Table 1.4 Service Unit Consumption Calculation

Year	Population	Residential Units (3.16 persons/unit)	Water Usage Average Day Demand (MGD)	Consumption per Service Unit (gpd)
2010	64,669	22,932	13.05	569
2011	65,071	23,075	15.37	666
2012	65,394	23,189	14.06	606
2013	65,701	23,298	13.16	565
2014	66,833	23,700	13.49	569
2015	67,893	24,076	13.02	541
2016	69,070	24,493	12.43	507
2017	71,850	25,479	11.84	465
2018	73,130	25,933	11.25	434
2019	76,030	26,961	10.53	391
Average Consumption per Service Unit				531

The consumption calculated above, 531 gallons, was considered a high estimate given the Town's downward trend over the past 10 years. During this update a revised consumption per service unit was used which more closely follows the recent trends. The assumed service unit consumption value to be used is 400 gallons per service unit.

Additional Service Units and Water Impact Fee Calculation

Based on the Town's 10-year growth projections and the resulting water demand projections, water service will be required for an additional 9,000 service units. The calculation is as follows:

- A service unit, which is a unit of development that consumes approximately 400 gallons per day (gpd), is a typical residential connection that uses a 5/8"x3/4" meter. Table 1.5 outlines the future water demand projections and their relationships to the additional service units projected for the next ten years.

Table 1.5 10-year Additional Service Units Calculation

Year	Average Day Demand (MGD)	Service Unit Demand (gpd)	Service Units
2020	16.27	400	40,675
2030	19.87	400	49,675
10-year Additional Service Units			9,000

Impact fee law allows for a credit calculation to credit back the development community based on the utility revenues or ad valorem taxes that are allocated to pay for a portion of future capital improvements. The intent of this credit is to prevent the Town from double charging development for future capital improvements via impact fees and utility rates. If the Town chooses not to do a financial analysis to determine the credit value, they are required by law to reduce the recoverable cost by 50 percent. The Town has chosen to perform a financial analysis. The maximum recoverable cost for impact fee is shown below.

A breakdown of the 10-year recoverable costs and the associated impact fee per service unit is as follows:

Table 1.6 10-year Recoverable Cost Breakdown

Recoverable Impact Fee CIP Costs	$39,158,082
Financing Costs	$8,119,930
Existing Fund Balance	($2,872,750)
Interest Earnings	($877,307)
Pre Credit Recoverable Cost for Impact Fee	$43,527,955
Credit for Utility Revenues	($1,447,677)
Maximum Recoverable Cost for Impact Fee	$42,080,278

$$\text{Impact fee per service unit} = \frac{\text{10-year recoverable costs}}{\text{10-year additional service units}}$$

$$\text{Impact fee per service unit} = \frac{\$42,080,278}{9000}$$

$$\text{Impact fee per service unit} = \$4,676$$

Therefore, the maximum assessable water impact fee for the Town per service unit is $4,676.

For a development that requires a different size meter, a service unit equivalent is established at a multiplier based on its capacity with respect to the 5/8"x3/4" meter. The maximum impact fee that could be assessed for other meter sizes is based on the value shown in Table 1.7 below.

Table 1.7 Service Unit Equivalency Table for Commonly Used Meters

Meter Size	Maximum Continuous Operating Capacity (gpm)**	Service Unit Equivalent	Maximum Assessable Fee ($)
5/8"x 3/4" PD	10	1	4,676
3/4" PD	15	1.5	7,013
1" PD	25	2.5	11,689
1 1/2" PD	50	5	23,378
2" PD	80	8	37,405
2" Compound	80	8	37,405
2" Turbine	160	16	74,809
3" Compound	175	17.5	81,823
3" Turbine	350	35	163,646
4" Compound	300	30	140,268
4" Turbine	650	65	303,913
6" Compound	675	67.5	315,602
6" Turbine	1,400	140	654,582
8" Compound	900	90	420,803
8" Turbine	2,400	240	1,122,141
10" Turbine	3,500	350	1,636,455

* PD = Positive Displacement Meter (typical residential meter)
** Operating capacities obtained from American Water Works Associate (AWWA) C700-15, C701-15, and C702-19. Turbine and Compound meter flows are based on Class II (in-line) meters.

Appendix A: Plan for Awarding Water Impact Fee Credit

SUMMARY OF WATER IMPACT FEE DETERMINATION

Water

Recoverable Impact Fee CIP Costs	$	39,158,082	Per Kimley-Horn Impact Fee Update
Financing Costs		8,119,930	See Detail Below
Existing Fund Balance		(2,872,750)	Page 1 of Appendix B - Water.
Interest Earnings		(877,307)	Page 4 of Appendix B - Water
Pre Credit Recoverable Cost for Impact Fee	$	43,527,955	Sum of Above
Credit for Utility Revenues		(1,447,677)	Page 8 of Appendix B - Water
Maximum Recoverable Cost for Impact Fee	**$**	**42,080,278**	

Recoverable Impact Fee CIP Costs:

Represents the portion of capital improvement costs that are eligible for funding through impact fees.

Financing Costs:

New Annual Debt Service	$	16,487,069	(Page 3 of Appendix B - Water)
Existing Annual Debt Service		12,830,238	(Page 3 of Appendix B - Water)
Principal Component		(21,197,378)	(Page 7 of Appendix B - Water)
Financing Costs	$	8,119,930	

Existing Fund Balance:

Represents impact fee revenue collected but not yet expended. Some projects that are included in the 2020 Impact Fee Update were also included in the previous Impact Fee Updates. To avoid charging twice for the same project, the impact fee revenues collected but yet to be expended (i.e. fund balance) are credited against the recoverable costs.

Interest Earnings:

Represents the interest earned on cash flows. Assumes a 0.438% annual interest rate based on the Town's current annual return as of 06/30/2020. The Impact Fee Statute states that interest earnings are funds of the impact fee account and are held to the same restrictions as impact fee revenues. Therefore in order to recognize that interest earnings are used to fund capital improvements, interest earnings are credited against the recoverable costs.

Pre Credit Recoverable Cost for Impact Fee

Represents Recoverable Impact Fee CIP Costs plus Financing Costs less Interest Earnings.

Credit for Utility Revenues:

In 2001, the Impact Fee Statute was amended to include a credit for ad valorem and utility revenues generated by new service units during the ten-year timeframe that are used to fund impact fee eligible projects for which the new service units were charged an impact fee. The intent of this amendment is to avoid double-charging the new service units for impact fee capital improvements. The credit recognizes utility revenues used to fund the debt service of debt financed impact fee eligible projects and assumes that all non-debt funded impact fee eligible project costs will be funded solely through impact fee revenues or other revenue sources.

Maximum Recoverable Cost for Impact Fee:

Represents Pre Credit Recoverable Cost for Impact Fee less Credit for Utility Service Revenues. This is the maximum cost that can be recovered through impact fees.

Appendix B: Impact Fee Calculation Assumptions

Town of Flower Mound 2020 Water Impact Fee Update

Impact Fee Calculation Assumptions

Appendix B - Impact Fee Calculation Assumptions

Water

I. General Assumptions

Annual Interest Rate on Deposits[1]	0.438%
Annual Service Unit Growth[2]	900
Available Existing Fund Balance[3]	2,872,750

Portion of Projects Funded by Existing Debt[4]	$ 9,994,145
Non-debt Funded Project Cost[5]	17,960,705
Project Cost Funded Through New Debt[6]	11,203,233
Total Recoverable Project Cost[7]	$ 39,158,082

II. New Debt Issues Assumptions

Year	Principal [8]	Interest [9]	Term
1	$ 1,120,323	4.00%	20
2	1,120,323	4.00%	20
3	1,120,323	4.00%	20
4	1,120,323	4.00%	20
5	1,120,323	4.00%	20
6	1,120,323	4.00%	20
7	1,120,323	4.00%	20
8	1,120,323	4.00%	20
9	1,120,323	4.00%	20
10	1,120,323	4.00%	20
Total	$ 11,203,233		

III. Capital Expenditure Assumptions

Year	Annual Capital Expenditures [10]
1	$ 2,356,232
2	2,916,394
3	2,916,394
4	2,916,394
5	2,916,394
6	2,916,394
7	2,916,394
8	2,916,394
9	2,916,394
10	3,476,555
Total	$ 29,163,937

(1) Town's current earning rate as of June 30, 2020
(2) Per Kimley-Horn Impact Fee Update
(3) Balances for this service area available as of July 31, 2020
(4) Per discussions with Town staff and files
(5) Unless specified in Town CIP, Assumes 50% of new project cost funded through sources other than debt
(6) Unless specified in Town CIP, Assumes 50% of new project costs funded through new debt issues
(7) Per Kimley-Horn Impact Fee Update
(8) Assumes new debt issued based on Town input
(9) Estimated interest cost provided by Town's Financial Advisor
(10) Non-debt funded capital expenditures made in equal annual amounts. Assumes new debt proceeds expended over a 2-year timeframe with Year 10 bond proceeds spent in one year.

Town of Flower Mound 2020 Water Impact Fee Update

Debt Service and Expenses Summary

Appendix B - Impact Fee Calculation Assumptions

Water

I. New Debt Service Detail

Year	Series 1	Series 2	Series 3	Series 4	Series 5	Series 6	Series 7	Series 8	Series 9	Series 10	Total Annual New Debt Service
1	$ 82,435	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 82,435
2	82,435	82,435	-	-	-	-	-	-	-	-	164,871
3	82,435	82,435	82,435	-	-	-	-	-	-	-	247,306
4	82,435	82,435	82,435	82,435	-	-	-	-	-	-	329,741
5	82,435	82,435	82,435	82,435	82,435	-	-	-	-	-	412,177
6	82,435	82,435	82,435	82,435	82,435	82,435	-	-	-	-	494,612
7	82,435	82,435	82,435	82,435	82,435	82,435	82,435	-	-	-	577,047
8	82,435	82,435	82,435	82,435	82,435	82,435	82,435	82,435	-	-	659,483
9	82,435	82,435	82,435	82,435	82,435	82,435	82,435	82,435	82,435	-	741,918
10	82,435	82,435	82,435	82,435	82,435	82,435	82,435	82,435	82,435	82,435	824,353
11	82,435	82,435	82,435	82,435	82,435	82,435	82,435	82,435	82,435	82,435	824,353
12	82,435	82,435	82,435	82,435	82,435	82,435	82,435	82,435	82,435	82,435	824,353
13	82,435	82,435	82,435	82,435	82,435	82,435	82,435	82,435	82,435	82,435	824,353
14	82,435	82,435	82,435	82,435	82,435	82,435	82,435	82,435	82,435	82,435	824,353
15	82,435	82,435	82,435	82,435	82,435	82,435	82,435	82,435	82,435	82,435	824,353
16	82,435	82,435	82,435	82,435	82,435	82,435	82,435	82,435	82,435	82,435	824,353
17	82,435	82,435	82,435	82,435	82,435	82,435	82,435	82,435	82,435	82,435	824,353
18	82,435	82,435	82,435	82,435	82,435	82,435	82,435	82,435	82,435	82,435	824,353
19	82,435	82,435	82,435	82,435	82,435	82,435	82,435	82,435	82,435	82,435	824,353
20	82,435	82,435	82,435	82,435	82,435	82,435	82,435	82,435	82,435	82,435	824,353
21	-	82,435	82,435	82,435	82,435	82,435	82,435	82,435	82,435	82,435	741,918
22	-	-	82,435	82,435	82,435	82,435	82,435	82,435	82,435	82,435	659,483
23	-	-	-	82,435	82,435	82,435	82,435	82,435	82,435	82,435	577,047
24	-	-	-	-	82,435	82,435	82,435	82,435	82,435	82,435	494,612
25	-	-	-	-	-	82,435	82,435	82,435	82,435	82,435	412,177
26	-	-	-	-	-	-	82,435	82,435	82,435	82,435	329,741
27	-	-	-	-	-	-	-	82,435	82,435	82,435	247,306
28	-	-	-	-	-	-	-	-	82,435	82,435	164,871
29	-	-	-	-	-	-	-	-	-	82,435	$ 82,435
	$ 1,648,707	$ 1,648,707	$ 1,648,707	$ 1,648,707	$ 1,648,707	$ 1,648,707	$ 1,648,707	$ 1,648,707	$ 1,648,707	$ 1,648,707	$ 16,487,069

Town of Flower Mound 2020 Water Impact Fee Update

Debt Service and Expenses Summary

Appendix B - Impact Fee Calculation Assumptions

II. Summary of Annual Expenses

Year	New Annual Debt Service[1]	Annual Capital Expenditures[2]	Annual Bond Proceeds[2]	Existing Annual Debt Service[3]	Annual Credit[4]	Total Expense
1	$ 82,435	$ 2,356,232	$ (1,120,323)	$ 1,092,197	$ (25,428)	2,385,113
2	164,871	2,916,394	(1,120,323)	1,123,154	(54,584)	3,029,511
3	247,306	2,916,394	(1,120,323)	859,404	(68,890)	2,833,890
4	329,741	2,916,394	(1,120,323)	859,939	(96,733)	2,889,018
5	412,177	2,916,394	(1,120,323)	860,112	(126,736)	2,941,623
6	494,612	2,916,394	(1,120,323)	815,406	(153,534)	2,952,554
7	577,047	2,916,394	(1,120,323)	805,484	(185,417)	2,993,185
8	659,483	2,916,394	(1,120,323)	792,647	(218,388)	3,029,812
9	741,918	2,916,394	(1,120,323)	727,011	(243,943)	3,021,057
10	824,353	3,476,555	(1,120,323)	688,106	(274,024)	3,594,668
11	824,353	-	-	687,795	-	1,512,149
12	824,353	-	-	671,487	-	1,495,840
13	824,353	-	-	645,482	-	1,469,835
14	824,353	-	-	598,214	-	1,422,567
15	824,353	-	-	532,939	-	1,357,292
16	824,353	-	-	429,826	-	1,254,180
17	824,353	-	-	371,186	-	1,195,540
18	824,353	-	-	212,760	-	1,037,113
19	824,353	-	-	57,089	-	881,443
20	824,353	-	-	-	-	824,353
21	741,918	-	-	-	-	741,918
22	659,483	-	-	-	-	659,483
23	577,047	-	-	-	-	577,047
24	494,612	-	-	-	-	494,612
25	412,177	-	-	-	-	412,177
26	329,741	-	-	-	-	329,741
27	247,306	-	-	-	-	247,306
28	164,871	-	-	-	-	164,871
29	82,435	-	-	-	-	82,435
	$ 16,487,069	$ 29,163,937	$ (11,203,233)	$ 12,830,238	$ (1,447,677)	$ 45,830,335

(1) Appendix B - Water, Page 2
(2) Appendix B - Water, Page 1
(3) Eligible Outstanding Debt Funded Projects Percent of Utility Self-Supported Debt Issuance times total outstanding utility self-supported annual debt service
(4) Appendix B - Water, Page 8

Town of Flower Mound 2020 Water Impact Fee Update

Revenue Test

Appendix B - Impact Fee Calculation Assumptions

Water

Year	Impact Fee	Service Units	Impact Fee Revenue	Annual Expenses	Sub-Total	Accumulated Interest	Estimated Fund Balance
Initial							$ 2,872,750
1	$ 4,676	900	$ 4,208,028	$ 2,385,113	$ 1,822,915	16,575	4,712,240
2	4,676	900	4,208,028	3,029,511	1,178,516	23,221	5,913,977
3	4,676	900	4,208,028	2,833,890	1,374,138	28,913	7,317,027
4	4,676	900	4,208,028	2,889,018	1,319,010	34,937	8,670,974
5	4,676	900	4,208,028	2,941,623	1,266,404	40,752	9,978,131
6	4,676	900	4,208,028	2,952,554	1,255,474	46,454	11,280,058
7	4,676	900	4,208,028	2,993,185	1,214,842	52,067	12,546,967
8	4,676	900	4,208,028	3,029,812	1,178,215	57,536	13,782,719
9	4,676	900	4,208,028	3,021,057	1,186,971	62,968	15,032,658
10	4,676	900	4,208,028	3,594,668	613,360	67,186	15,713,204
11	-	-	-	1,512,149	(1,512,149)	65,512	14,266,568
12	-	-	-	1,495,840	(1,495,840)	59,212	12,829,939
13	-	-	-	1,469,835	(1,469,835)	52,976	11,413,080
14	-	-	-	1,422,567	(1,422,567)	46,874	10,037,387
15	-	-	-	1,357,292	(1,357,292)	40,991	8,721,086
16	-	-	-	1,254,180	(1,254,180)	35,452	7,502,358
17	-	-	-	1,195,540	(1,195,540)	30,242	6,337,060
18	-	-	-	1,037,113	(1,037,113)	25,485	5,325,432
19	-	-	-	881,443	(881,443)	21,395	4,465,384
20	-	-	-	824,353	(824,353)	17,753	3,658,784
21	-	-	-	741,918	(741,918)	14,401	2,931,266
22	-	-	-	659,483	(659,483)	11,395	2,283,178
23	-	-	-	577,047	(577,047)	8,737	1,714,867
24	-	-	-	494,612	(494,612)	6,428	1,226,683
25	-	-	-	412,177	(412,177)	4,470	818,977
26	-	-	-	329,741	(329,741)	2,865	492,100
27	-	-	-	247,306	(247,306)	1,614	246,408
28	-	-	-	164,871	(164,871)	718	82,256
29	-	-	-	82,435	(82,435)	180	-
			42,080,278	45,830,335		877,307	

Town of Flower Mound 2020 Water Impact Fee Update

Impact Fee Calculation

Appendix B - Impact Fee Calculation Assumptions

Water

Year	Number of Years to End of Period	Future Value Interest Rate Factor	Escalation Recovery Fee Factor	Annual Service Units Actual	Annual Service Units Escalated	Annual Expense Actual	Annual Expense Escalated
Prev							
1	29	1.1326	1.0000	900	1,019	2,385,113	2,701,498
2	28	1.1277	1.0000	900	1,015	3,029,511	3,416,411
3	27	1.1228	1.0000	900	1,011	2,833,890	3,181,870
4	26	1.1179	1.0000	900	1,006	2,889,018	3,229,622
5	25	1.1130	1.0000	900	1,002	2,941,623	3,274,089
6	24	1.1082	1.0000	900	997	2,952,554	3,271,924
7	23	1.1033	1.0000	900	993	2,993,185	3,302,485
8	22	1.0985	1.0000	900	989	3,029,812	3,328,319
9	21	1.0937	1.0000	900	984	3,021,057	3,304,228
10	20	1.0890	1.0000	900	980	3,594,668	3,914,460
11	19	1.0842	1.0000	-	-	1,512,149	1,639,493
12	18	1.0795	1.0000	-	-	1,495,840	1,614,739
13	17	1.0748	1.0000	-	-	1,469,835	1,579,747
14	16	1.0701	1.0000	-	-	1,422,567	1,522,277
15	15	1.0654	1.0000	-	-	1,357,292	1,446,093
16	14	1.0608	1.0000	-	-	1,254,180	1,330,407
17	13	1.0562	1.0000	-	-	1,195,540	1,262,673
18	12	1.0515	1.0000	-	-	1,037,113	1,090,574
19	11	1.0470	1.0000	-	-	881,443	922,836
20	10	1.0424	1.0000	-	-	824,353	859,302
21	9	1.0378	1.0000	-	-	741,918	770,000
22	8	1.0333	1.0000	-	-	659,483	681,459
23	7	1.0288	1.0000	-	-	577,047	593,677
24	6	1.0243	1.0000	-	-	494,612	506,647
25	5	1.0199	1.0000	-	-	412,177	420,364
26	4	1.0154	1.0000	-	-	329,741	334,825
27	3	1.0110	1.0000	-	-	247,306	250,024
28	2	1.0066	1.0000	-	-	164,871	165,955
29	1	1.0022	1.0000	-	-	82,435	82,616
					9,996	45,830,335	49,998,615

Total Escalated Expense for Entire Period	$	49,998,615
Less Future Value of Initial Fund Balance		3,260,930
Net Escalated Expense for Entire Period	$	46,737,685
Total Escalated Service Units		9,996
Impact Fee for Water	**$**	**4,676**

Town of Flower Mound 2020 Water Impact Fee Update

Impact Fee Project Funding

Appendix B - Impact Fee Calculation Assumptions

Water

Impact Fee Project Name[1]	Impact Fee Project No.[1]	Total Project Cost [1]	Percent Recoverable[1]	Impact Fee Recoverable Cost[2]	Debt Funded[3] Existing	Debt Funded[3] Proposed	Non-Debt Funded[3]	Impact Fee Recoverable Cost
Water Capital Improvements								
Canyon Falls 20-inch Water Line	1	$ 1,746,339	24%	$ 419,121	$ 267,860	$ -	$ 151,262	$ 419,121
Highway 377/UPRR Water Lines Phase I	2	2,296,815	8%	183,745	40,651	-	143,094	183,745
Stonecrest Pump Station Auxiliary Power	3	2,550,000	15%	382,500	-	300,000	82,500	382,500
Stonecrest (Western) Pump Station Phase I	4	11,944,788	38%	4,539,019	4,389,492	-	149,528	4,539,019
Trailwood Terrace 12-inch Water Line	5	325,099	68%	221,067	-	-	221,067	221,067
FM 1171 to Hwy 377 Phase I	6	2,810,382	60%	1,686,229	-	-	1,686,229	1,686,229
Freeman (Western) 2.5 MG EST	7	5,613,340	30%	1,684,002	1,528,002	-	156,000	1,684,002
Raintree 12-inch Water Line (Ridgecrest to Shiloh)	8	308,757	50%	154,378	116,878	-	37,500	154,378
Lusk Lane Water Line	9	1,060,864	20%	212,173	212,173	-	-	212,173
16" Kirkpatrick Water Line	10	570,341	22%	125,475	125,475	-	-	125,475
Branchwood Water Line (Russwood Dr. to FM 407)	11	55,222	50%	27,611		13,806	13,806	27,611
FM 2499 12-inch Water Line Phase I (Dixon to south of FM 1171)	12	1,157,783	100%	1,157,783	325,626	-	832,157	1,157,783
Morriss Road Water Line Phase II (FM 1171 to Eaton)	13	2,722,500	91%	2,477,475	855,855	-	1,621,620	2,477,475
Rippy Road Water Line Improvements (FM 2499 to Waketon)	14	750,000	95%	712,500	380,000	-	332,500	712,500
Stonehill Pump Station	15	9,487,799	12%	1,138,536		569,268	569,268	1,138,536
Timber Creek 20" Water Line	16	542,164	24%	130,119	129,984	-	136	130,119
Valley Ridge 20" Water Line	17	208,441	24%	50,026	50,026	-	-	50,026
Kirkpatrick Lane 12-inch Water Line Phase II (Valley Ridge to FM 1171)	18	1,079,971	100%	1,079,971	408,374	-	671,596	1,079,971
Garden Ridge Boulevard Water Line Phase II (South of Kirkpatrick)	19	743,844	100%	743,844	190,714	-	553,130	743,844
FM 2499 12-inch Water Line Phase III	20	762,253	77%	586,935	339,928	-	247,007	586,935
Lake Forest 12-inch Water Line (Bridge Gap)	21	127,571	50%	63,786	-	-	63,786	63,786
Lake Forest 12-inch Water Line (Spinks to Lakeside)	22	109,252	44%	48,071	48,071	-	-	48,071
Long Prairie 12-inch Water Line	23	828,903	77%	638,256	293,808	-	344,448	638,256
Pintail Pump Station Auxiliary Power	24	1,269,857	15%	190,479	130,479	-	60,000	190,479
Pintail Pump Station Capacity Improvements	25	300,000	51%	153,000	153,000	-	-	153,000
Denton Creek Spine Road 12-inch Water Line	26	3,210,000	18%	577,800		288,900	288,900	577,800
Denton Creek Boulevard 12-inch Water Line	27	1,300,000	24%	312,000		156,000	156,000	312,000
FM 1171 to Hwy 377 Water Line Phase II	28	6,400,000	24%	1,536,000		768,000	768,000	1,536,000
Hwy 377/UPRR Water Line Phase II	29	3,410,000	24%	818,400		409,200	409,200	818,400
Stonecrest Pump Station Phase II	30	5,460,000	5%	273,000		136,500	136,500	273,000
Stonecrest Pump Station Phase III	31	790,000	5%	39,500		19,750	19,750	39,500
West Side Water Line (West)	32	1,560,000	24%	374,400		187,200	187,200	374,400
West Side Water Line (East)	33	4,850,000	5%	242,500		121,250	121,250	242,500
West Side Water Line (South)	34	4,550,000	36%	1,638,000		819,000	819,000	1,638,000
Cowboy Lane Water Line	35	930,000	36%	334,800		167,400	167,400	334,800
Lusk/Red RockEast-West Connector	36	4,250,000	5%	212,500		106,250	106,250	212,500
Scenic Drive Water Line (S of FM 1171 to River Hill Drive)	37	1,430,000	5%	71,500		35,750	35,750	71,500

Town of Flower Mound 2020 Water Impact Fee Update

Impact Fee Project Funding

Appendix B - Impact Fee Calculation Assumptions

Water

Impact Fee Project Name[1]	Impact Fee Project No.[1]	Total Project Cost [1]	Percent Recoverable[1]	Impact Fee Recoverable Cost[2]	Debt Funded[3] Existing	Debt Funded[3] Proposed	Non-Debt Funded[3]	Impact Fee Recoverable Cost
Aberdeen 12-inch Water Line (FM 2499 to Lake Forest)	38	207,187	42%	87,019		43,509	43,509	87,019
Kirkpatrick 12-inch Water Line Phase III (South to FM 1171)	39	450,000	100%	450,000		225,000	225,000	450,000
Timber Creek 20-inch Water Line Extension	40	490,000	91%	445,900		222,950	222,950	445,900
Morriss Road Water Line Phase III (Eaton to Waketon Road)	41	3,140,000	91%	2,857,400		1,428,700	1,428,700	2,857,400
Morriss Road Water Line Phase IV (Waketon Road to FM 407)	42	4,190,000	91%	3,812,900		1,906,450	1,906,450	3,812,900
Morriss Road 20-Inch Water Line (Mallard Way to FM 3040)	43	720,000	91%	655,200		327,600	327,600	655,200
Lake Forest 12-inch Water Line (FM 3040 to Spinks Road)	44	1,760,000	5%	88,000		44,000	44,000	88,000
2020 Water Master Plan and Impact Fee Updates	45	179,500	100%	179,500		-	179,500	179,500
Reuse Pump Station and Ground Storage Tanks	46	7,900,000	15%	1,185,000		592,500	592,500	1,185,000
Reuse Transmission Lines	47	1,770,000	15%	265,500		132,750	132,750	265,500
FM 1171/Hwy 377 Central Reuse Loop	48	1,570,000	15%	235,500		117,750	117,750	235,500
FM 1171 West Reuse Line	49	1,570,000	15%	235,500		117,750	117,750	235,500
FM 1171 East Reuse Line	50	1,360,000	15%	204,000		102,000	102,000	204,000
Highway 377 Central Reuse Line	51	1,290,000	15%	193,500		96,750	96,750	193,500
Canyon Falls Drive Reuse Line	52	1,320,000	15%	198,000		99,000	99,000	198,000
Denton Creek Boulevard South Reuse Line	53	1,060,000	15%	159,000		79,500	79,500	159,000
UPRR Central Reuse Line	54	960,000	15%	144,000		72,000	72,000	144,000
Stonecrest Road Reuse Line	55	770,000	15%	115,500		57,750	57,750	115,500
Canyon Falls North Reuse Line	56	680,000	15%	102,000		51,000	51,000	102,000
East Reuse Lines	57	2,320,000	15%	348,000		174,000	174,000	348,000
Reuse Central Connector	58	630,000	15%	94,500		47,250	47,250	94,500
Denton Creek North Distribution Line	59	870,000	15%	130,500		65,250	65,250	130,500
Denton Creek Spine Road Reuse Lines	60	1,110,000	15%	166,500		83,250	83,250	166,500
Hwy 377 North Reuse Line	61	440,000	15%	66,000		33,000	33,000	66,000
Dunham/Hayes Reuse Loop	62	900,000	15%	135,000		67,500	67,500	135,000
Cowboy Lane Reuse Line	63	770,000	15%	115,500		57,750	57,750	115,500
Southwest Reuse Line	64	800,000	15%	120,000		60,000	60,000	120,000
Lakeside Business District - Water Reuse Master Plan	65	126,663	100%	126,663	7,750	-	118,913	126,663
Lakeside Reuse Phase I	66	9,030,000	5%	451,500	-	400,000	51,500	451,500
Lakeside Reuse Phase II	67	5,450,000	5%	272,500	-	200,000	72,500	272,500
Lakeside Reuse Phase III	68	5,630,000	5%	281,500	-	200,000	81,500	281,500
Total		**$ 146,975,635**		**$ 39,158,082**	**$ 9,994,145**	**$ 11,203,233**	**$ 17,960,705**	**$ 39,158,082**

(1) 2020 Water Impact Fee Study, Appendix C

(2) Per Kimley-Horn Impact Fee Update

(3) Based on Contributions by Project and Planned Future Debt Financing

Town of Flower Mound 2020 Water Impact Fee Update

Credit Determination

Appendix B - Impact Fee Calculation Assumptions

Water

2020 Service Units [1]	40,675	
Ten Year Growth in Service Units [1]	9,000	
	10	years
Annual Growth in Service Units	900	

		1	2	3	4	5	6	7	8	9	10	Total
Total Debt Service Eligible for Impact Fees		$ 1,174,632	$ 1,288,025	$ 1,106,710	$ 1,189,680	$ 1,272,289	$ 1,310,018	$ 1,382,532	$ 1,452,130	$ 1,468,929	$ 1,512,459	$ 13,157,404
2020 Service Units Plus Water Growth		41,575	42,475	43,375	44,275	45,175	46,075	46,975	47,875	48,775	49,675	
Total Debt Service Eligible for Impact Fees per Service Unit		$ 28.25	$ 30.32	$ 25.51	$ 26.87	$ 28.16	$ 28.43	$ 29.43	$ 30.33	$ 30.12	$ 30.45	
Annual Service Unit Growth in Water (Cumulative)		900	1,800	2,700	3,600	4,500	5,400	6,300	7,200	8,100	9,000	
Annual Water Utility Revenue Generated by Additional Service Units for Debt Service Eligible for Impact Fees		$ 25,428	$ 54,584	$ 68,890	$ 96,733	$ 126,736	$ 153,534	$ 185,417	$ 218,388	$ 243,943	$ 274,024	$ 1,447,677
Credit Amount	**$ 1,447,677**											

(1) Per Kimley-Horn Impact Fee Update

Appendix C: Construction Cost Projections

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

Client:	**Flower Mound**	**Date:**	**10/26/2020**
Project:	**Water Impact Fee Updates**	**Prepared By:**	**LMB**
KHA No.:	**061000201**	**Checked By:**	**MAS**

Title:	**Canyon Falls 20-inch Water Line**	**Project:**	**1**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Project Cost Provided by Town	1	LS	$ 1,746,339.00	$ 1,746,339
	Basis for Cost Projection:	**Total:**			$ 1,746,339
	Existing Development Agreement				

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

Client:	**Flower Mound**	**Date:**	**10/26/2020**
Project:	**Water Impact Fee Updates**	**Prepared By:**	**LMB**
KHA No.:	**061000201**	**Checked By:**	**MAS**

Title:	**Highway 377/UPRR Water Lines Phase I**	**Project:**	**2**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Project Cost Provided by Town	1	LS	$ 2,296,815.28	$ 2,296,815
	Basis for Cost Projection:	**Total:**			$ 2,296,815
	Constructed				

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

Client:	**Flower Mound**	**Date:**	**10/26/2020**
Project:	**Water Impact Fee Updates**	**Prepared By:**	**LMB**
KHA No.:	**061000201**	**Checked By:**	**MAS**

Title:	**Stonecrest Pump Station Auxiliary Power**	**Project:**	**3**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Project Cost	1	LS	$ 2,550,000.00	$ 2,550,000
	Basis for Cost Projection:	**Total:**			$ 2,550,000
	Design Contract & Current OPCC				

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

Client:	**Flower Mound**	**Date:**	**10/26/2020**
Project:	**Water Impact Fee Updates**	**Prepared By:**	**LMB**
KHA No.:	**061000201**	**Checked By:**	**MAS**

Title:	**Stonecrest (Western) Pump Station Phase I**	**Project:**	**4**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Project Cost Provided by Town	1	LS	$ 11,944,788.00	$ 11,944,788
	Basis for Cost Projection:	**Total:**			$ 11,944,788
	Constructed				

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

Client:	**Flower Mound**	**Date:**	**10/26/2020**
Project:	**Water Impact Fee Updates**	**Prepared By:**	**LMB**
KHA No.:	**061000201**	**Checked By:**	**MAS**

Title:	**Trailwood Terrace 12-inch Water Line**	**Project:**	**5**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Project Cost Provided by Town	1	LS	$ 325,098.74	$ 325,099
	Basis for Cost Projection:	**Total:**			$ 325,099
	Constructed				

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

Client:	**Flower Mound**	**Date:**	**10/26/2020**
Project:	**Water Impact Fee Updates**	**Prepared By:**	**LMB**
KHA No.:	**061000201**	**Checked By:**	**MAS**

Title:	**FM 1171 to Hwy 377 Phase I**	**Project:**	**6**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Project Cost Provided by Town	1	LS	$ 2,810,382.31	$ 2,810,382
	Basis for Cost Projection:	**Total:**			$ 2,810,382
	Constructed				

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

Client:	**Flower Mound**	**Date:**	**10/26/2020**
Project:	**Water Impact Fee Updates**	**Prepared By:**	**LMB**
KHA No.:	**061000201**	**Checked By:**	**MAS**

Title:	**Freeman (Western) 2.5 MG EST**	**Project:**	**7**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Project Cost Provided by Town	1	LS	$ 5,613,339.75	$ 5,613,340
	Basis for Cost Projection:	**Total:**			$ 5,613,340
	Constructed				

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

Client:	**Flower Mound**	**Date:**	**10/26/2020**
Project:	**Water Impact Fee Updates**	**Prepared By:**	**LMB**
KHA No.:	**061000201**	**Checked By:**	**MAS**

Title:	**Raintree 12-inch Water Line (Ridgecrest to Shiloh)**	**Project:**	**8**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Project Cost Provided by Town	1	LS	$ 308,756.85	$ 308,757
	Basis for Cost Projection:	**Total:**			$ 308,757
	Constructed				

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

Client:	**Flower Mound**	**Date:**	**10/26/2020**
Project:	**Water Impact Fee Updates**	**Prepared By:**	**LMB**
KHA No.:	**061000201**	**Checked By:**	**MAS**

Title:	**Lusk Lane Water Line**	**Project:**	**9**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Project Cost Provided by Town	1	LS	$ 1,060,864.16	$ 1,060,864
	Basis for Cost Projection:	**Total:**			$ 1,060,864
	Constructed				

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

Client:	**Flower Mound**	**Date:**	**10/26/2020**
Project:	**Water Impact Fee Updates**	**Prepared By:**	**LMB**
KHA No.:	**061000201**	**Checked By:**	**MAS**

Title:	**16" Kirkpatrick Water Line**	**Project:**	**10**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Project Cost Provided by Town	1	LS	$ 570,340.80	$ 570,341
	Basis for Cost Projection:	**Total:**			$ 570,341
	Constructed				

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

Client:	**Flower Mound**	**Date:**	**10/26/2020**
Project:	**Water Impact Fee Updates**	**Prepared By:**	**LMB**
KHA No.:	**061000201**	**Checked By:**	**MAS**

Title:	**Branchwood Water Line (Russwood Dr. to FM 407)**	**Project:**	**11**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Project Cost Provided by Town	1	LS	$ 55,222.00	$ 55,222
	Basis for Cost Projection:	**Total:**			$ 55,222
	Constructed				

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

Client:	**Flower Mound**	**Date:**	**10/26/2020**
Project:	**Water Impact Fee Updates**	**Prepared By:**	**LMB**
KHA No.:	**061000201**	**Checked By:**	**MAS**

Title:	**FM 2499 12-inch Water Line Phase I (Dixon to south of FM 1171)**	**Project:**	**12**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Project Cost Provided by Town	1	LS	$ 1,157,783.44	$ 1,157,783
	Basis for Cost Projection:	**Total:**			$ 1,157,783
	Constructed				

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

Client:	**Flower Mound**	**Date:**	**10/26/2020**
Project:	**Water Impact Fee Updates**	**Prepared By:**	**LMB**
KHA No.:	**061000201**	**Checked By:**	**MAS**

Title:	**Morriss Road Water Line Phase II (FM 1171 to Eaton)**	**Project:**	**13**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Project Cost	1	LS	$ 2,722,500.00	$ 2,722,500
	Basis for Cost Projection:	**Total:**			$ 2,722,500
	Design Contract & Current OPCC				

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

Client:	**Flower Mound**	**Date:**	**10/26/2020**
Project:	**Water Impact Fee Updates**	**Prepared By:**	**LMB**
KHA No.:	**061000201**	**Checked By:**	**MAS**

Title:	**Rippy Road Water Line Improvements (FM 2499 to Waketon)**	**Project:**	**14**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Project Cost Provided by Town	1	LS	$ 750,000.00	$ 750,000
	Basis for Cost Projection:	**Total:**			$ 750,000
	Phase I Constructed + Phase II OPCC				

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

Client:	**Flower Mound**	**Date:**	**10/26/2020**
Project:	**Water Impact Fee Updates**	**Prepared By:**	**LMB**
KHA No.:	**061000201**	**Checked By:**	**MAS**

Title:	**Stonehill Pump Station**	**Project:**	**15**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Project Cost Provided by Town	1	LS	$ 9,487,799.00	$ 9,487,799
	Basis for Cost Projection:	**Total:**			$ 9,487,799
	Constructed				

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

Client:	**Flower Mound**	**Date:**	**10/26/2020**
Project:	**Water Impact Fee Updates**	**Prepared By:**	**LMB**
KHA No.:	**061000201**	**Checked By:**	**MAS**

Title:	**Timber Creek 20" Water Line**	**Project:**	**16**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Project Cost Provided by Town	1	LS	$ 542,163.58	$ 542,164
	Basis for Cost Projection:	**Total:**			$ 542,164
	Constructed				

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

Client:	**Flower Mound**	**Date:**	**10/26/2020**
Project:	**Water Impact Fee Updates**	**Prepared By:**	**LMB**
KHA No.:	**061000201**	**Checked By:**	**MAS**

Title:	**Valley Ridge 20" Water Line**	**Project:**	**17**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Project Cost Provided by Town	1	LS	$ 208,441.26	$ 208,441
	Basis for Cost Projection:	**Total:**			$ 208,441
	Constructed				

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

Client:	**Flower Mound**	**Date:**	**10/26/2020**
Project:	**Water Impact Fee Updates**	**Prepared By:**	**LMB**
KHA No.:	**061000201**	**Checked By:**	**MAS**

Title:	**Kirkpatrick Lane 12-inch Water Line Phase II (Valley Ridge to FM 1171)**	**Project:**	**18**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Project Cost Provided by Town	1	LS	$ 1,079,970.54	$ 1,079,971
	Basis for Cost Projection:	**Total:**			$ 1,079,971
	Constructed				

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

Client:	**Flower Mound**	**Date:**	**10/26/2020**
Project:	**Water Impact Fee Updates**	**Prepared By:**	**LMB**
KHA No.:	**061000201**	**Checked By:**	**MAS**

Title:	**Garden Ridge Boulevard Water Line Phase II (South of Kirkpatrick)**	**Project:**	**19**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Project Cost Provided by Town	1	LS	$ 743,844.00	$ 743,844
	Basis for Cost Projection:	**Total:**			$ 743,844
	Constructed				

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

Client:	**Flower Mound**	**Date:**	**10/26/2020**
Project:	**Water Impact Fee Updates**	**Prepared By:**	**LMB**
KHA No.:	**061000201**	**Checked By:**	**MAS**

Title:	**FM 2499 12-inch Water Line Phase III**	**Project:**	**20**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Project Cost Provided by Town	1	LS	$ 762,253.11	$ 762,253
	Basis for Cost Projection:	**Total:**			$ 762,253
	Constructed				

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

Client:	**Flower Mound**	**Date:**	**10/26/2020**
Project:	**Water Impact Fee Updates**	**Prepared By:**	**LMB**
KHA No.:	**061000201**	**Checked By:**	**MAS**

Title:	**Lake Forest 12-inch Water Line (Bridge Gap)**	**Project:**	**21**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Project Cost Provided by Town	1	LS	$ 127,571.00	$ 127,571
	Basis for Cost Projection:	**Total:**			$ 127,571
	Constructed				

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

Client:	**Flower Mound**	**Date:**	**10/26/2020**
Project:	**Water Impact Fee Updates**	**Prepared By:**	**LMB**
KHA No.:	**061000201**	**Checked By:**	**MAS**

Title:	**Lake Forest 12-inch Water Line (Spinks to Lakeside)**	**Project:**	**22**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Project Cost Provided by Town	1	LS	$ 109,251.74	$ 109,252
	Basis for Cost Projection:	**Total:**			$ 109,252
	Constructed				

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

Client:	**Flower Mound**	**Date:**	**10/26/2020**
Project:	**Water Impact Fee Updates**	**Prepared By:**	**LMB**
KHA No.:	**061000201**	**Checked By:**	**MAS**

Title:	**Long Prairie 12-inch Water Line**	**Project:**	**23**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Project Cost Provided by Town	1	LS	$ 828,903.25	$ 828,903
	Basis for Cost Projection:	**Total:**			$ 828,903
	Constructed				

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

Client:	**Flower Mound**	**Date:**	**10/26/2020**
Project:	**Water Impact Fee Updates**	**Prepared By:**	**LMB**
KHA No.:	**061000201**	**Checked By:**	**MAS**

Title:	**Pintail Pump Station Auxiliary Power**	**Project:**	**24**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Project per KH Design Contract + Contractor's Bid	1	LS	$ 1,269,857.00	$ 1,269,857
	Basis for Cost Projection:	**Total:**			$ 1,269,857
	Constructed				

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

Client:	**Flower Mound**	**Date:**	**10/26/2020**
Project:	**Water Impact Fee Updates**	**Prepared By:**	**LMB**
KHA No.:	**061000201**	**Checked By:**	**MAS**

Title:	**Pintail Pump Station Capacity Improvements**	**Project:**	**25**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Project Cost Provided by Town	1	LS	$ 300,000.00	$ 300,000
	Basis for Cost Projection:	**Total:**			$ 300,000
	Constructed				

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

Client:	**Flower Mound**	**Date:**	**10/26/2020**
Project:	**Water Impact Fee Updates**	**Prepared By:**	**LMB**
KHA No.:	**061000201**	**Checked By:**	**MAS**

Title: **Denton Creek Spine Road 12-inch Water Line** **Project:** **26**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Mobilization	1	LS	$ 90,000.00	$ 90,000
2	12" Water Line	14,300	LF	$ 120.00	$ 1,716,000
3	Trench Safety	14,300	LF	$ 2.00	$ 28,600
4	Seed, Fertilizer and Erosion Control	14,270	LF	$ 10.00	$ 142,700
5	Concrete Pavement Repair	50	SY	$ 110.00	$ 5,500
6	12" Gate Valve (1 per 500 lf of pipe)	29	EA	$ 5,000.00	$ 145,000
7	Fire Hydrant Assembly (1 per 500 lf of pipe)	29	EA	$ 7,500.00	$ 217,500
8	Connect to Small Diameter Water Line	2	LF	$ 5,000.00	$ 10,000
9	Hydrostatic Testing and Disinfection (Long)	1	LF	$ 20,000.00	$ 20,000
	Subtotal:				$ 2,285,300
	Eng/Survey Fees (+/- %):	15			$ 343,000
	Contingency (+/- %):	25			$ 581,700
	Prop Acquisition:				$ -
	Total:				$ 3,210,000

Basis for Cost Projection:

- ☑ No Design Completed
- ☐ Preliminary Design
- ☐ Final Design

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

Client:	**Flower Mound**	**Date:**	**10/26/2020**
Project:	**Water Impact Fee Updates**	**Prepared By:**	**LMB**
KHA No.:	**061000201**	**Checked By:**	**MAS**

Title: **Denton Creek Boulevard 12-inch Water Line** **Project:** **27**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Mobilization	1	LS	$ 40,000.00	$ 40,000
2	12" Water Line	5,000	LF	$ 120.00	$ 600,000
3	Trench Safety	4,900	LF	$ 2.00	$ 9,800
4	Seed, Fertilizer and Erosion Control	4,900	LF	$ 10.00	$ 49,000
5	Concrete Pavement Repair	20	SY	$ 110.00	$ 2,200
6	12" Gate Valve (1 per 500 lf of pipe)	10	EA	$ 5,000.00	$ 50,000
7	Fire Hydrant Assembly (1 per 500 lf of pipe)	10	EA	$ 7,500.00	$ 75,000
8	Bore with 24" Steel Casing	100	LF	$ 600.00	$ 60,000
9	Connect to Small Diameter Water Line	3	EA	$ 5,000.00	$ 15,000
10	Connect to Large Diameter Water Line	1	EA	$ 15,000.00	$ 15,000
11	Hydrostatic Testing and Disinfection (Short)	1	LS	$ 10,000.00	$ 10,000

Basis for Cost Projection:

- ☑ No Design Completed
- ☐ Preliminary Design
- ☐ Final Design

Subtotal:		$ 926,000
Eng/Survey Fees (+/- %):	15	$ 139,000
Contingency (+/- %):	25	$ 235,000
Prop Acquisition:		$ -
Total:		$ 1,300,000

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

Client:	**Flower Mound**	**Date:**	**10/26/2020**
Project:	**Water Impact Fee Updates**	**Prepared By:**	**LMB**
KHA No.:	**061000201**	**Checked By:**	**MAS**

Title:	**FM 1171 to Hwy 377 Water Line Phase II**	**Project:**	**28**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Mobilization	1	LS	$ 170,000.00	$ 170,000
2	24" Water Line	12,600	LF	$ 250.00	$ 3,150,000
3	Trench Safety	12,050	LF	$ 2.00	$ 24,100
4	Seed, Fertilizer and Erosion Control	12,000	LF	$ 10.00	$ 120,000
5	Concrete Pavement Repair	56	SY	$ 110.00	$ 6,111
6	24" Gate Valve with Vault (1 per 3,000 lf of pipe)	5	EA	$ 50,000.00	$ 250,000
7	Fire Hydrant Assembly (1 per 2,500 lf of pipe)	6	EA	$ 7,500.00	$ 45,000
8	Bore with 42" Steel Casing	550	LF	$ 1,000.00	$ 550,000
9	Connect to Small Diameter Water Line	1	EA	$ 5,000.00	$ 5,000
10	Connect to Large Diameter Water Line	4	EA	$ 15,000.00	$ 60,000
11	Hydrostatic Testing and Disinfection (Long)	1	EA	$ 20,000.00	$ 20,000
12	Combination 6" Blow Off Valve & Vault	4	EA	$ 15,000.00	$ 60,000
13	Combination 4" Air Release/Vacuum Valve & Vault	4	EA	$ 20,000.00	$ 80,000
14	Cathodic Protection	1	LS	$ 20,000.00	$ 20,000

Basis for Cost Projection:

- [x] No Design Completed
- [ ] Preliminary Design
- [ ] Final Design

Subtotal:			$ 4,560,211
Eng/Survey Fees (+/- %):	15		$ 685,000
Contingency (+/- %):	25		$ 1,154,789
Prop Acquisition:			$ -
Total:			$ 6,400,000

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

Client:	**Flower Mound**	**Date:**	**10/26/2020**
Project:	**Water Impact Fee Updates**	**Prepared By:**	**LMB**
KHA No.:	**061000201**	**Checked By:**	**MAS**

Title: **Highway 377/UPRR Water Lines Phase II** **Project:** **29**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Mobilization	1	LS	$ 90,000.00	$ 90,000
2	24" Water Line	7,600	LF	$ 250.00	$ 1,900,000
3	Trench Safety	7,600	LF	$ 2.00	$ 15,200
4	Seed, Fertilizer and Erosion Control	7,580	LF	$ 10.00	$ 75,800
5	Concrete Pavement Repair	20	SY	$ 110.00	$ 2,200
6	24" Gate Valve with Vault (1 per 3,000 lf of pipe)	3	EA	$ 50,000.00	$ 150,000
7	Fire Hydrant Assembly (1 per 2,500 lf of pipe)	4	EA	$ 7,500.00	$ 30,000
8	Connect to Small Diameter Water Line	4	EA	$ 5,000.00	$ 20,000
9	Connect to Large Diameter Water Line	1	LS	$ 15,000.00	$ 15,000
10	Hydrostatic Testing and Disinfection (Short)	1	LS	$ 10,000.00	$ 10,000
11	Combination 6" Blow Off Valve & Vault	2	EA	$ 15,000.00	$ 30,000
12	Combination 4" Air Release/Vacuum Valve & Vault	2	EA	$ 20,000.00	$ 40,000
13	Cathodic Protection	1	LS	$ 50,000.00	$ 50,000

Basis for Cost Projection:

- ☑ No Design Completed
- ☐ Preliminary Design
- ☐ Final Design

Subtotal:		$ 2,428,200
Eng/Survey Fees (+/- %):	15	$ 365,000
Contingency (+/- %):	25	$ 616,800
Prop Acquisition:		$ -
Total:		$ 3,410,000

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

Client:	**Flower Mound**	**Date:**	**10/26/2020**
Project:	**Water Impact Fee Updates**	**Prepared By:**	**LMB**
KHA No.:	**061000201**	**Checked By:**	**MAS**

Title: **Stonecrest Pump Station Phase II** **Project:** **30**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Mobilization	1	LS	$ 150,000.00	$ 150,000
2	Tank Supply Line	175	LF	$ 400.00	$ 70,000
3	Tank Discharge Line	170	LF	$ 450.00	$ 76,500
4	5 MG Ground Storage Tank	1	EA	$ 2,300,000.00	$ 2,300,000
5	Excavation	4,750	CY	$ 30.00	$ 142,500
6	Select Backfill	4,750	CY	$ 30.00	$ 142,500
7	Connect to Existing Water Line	2	EA	$ 10,000.00	$ 20,000
8	Grading	1	LS	$ 50,000.00	$ 50,000
9	Landscaping	1	LS	$ 25,000.00	$ 25,000
10	Irrigation	1	LS	$ 10,000.00	$ 10,000
11	Horizontal Split Case Pump	1	EA	$ 300,000.00	$ 300,000
12	Mechanical Piping	1	LS	$ 50,000.00	$ 50,000
13	Control Valve	1	LS	$ 30,000.00	$ 30,000
14	Feeder and soft starter to pump	1	LS	$ 50,000.00	$ 50,000
15	Yard Valves	1	LS	$ 275,000.00	$ 275,000
16	Electrical	1	LS	$ 150,000.00	$ 150,000
17	SCADA/Instumentation	1	LS	$ 50,000.00	$ 50,000

Basis for Cost Projection:

- ☑ No Design Completed
- ☐ Preliminary Design
- ☐ Final Design

Subtotal:			$ 3,891,500
Eng/Survey Fees (+/- %):	15		$ 584,000
Contingency (+/- %):	25		$ 984,500
Prop Acquisition:			$ -
Total:			$ 5,460,000

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

Client:	**Flower Mound**	**Date:**	**10/26/2020**
Project:	**Water Impact Fee Updates**	**Prepared By:**	**LMB**
KHA No.:	**061000201**	**Checked By:**	**MAS**

Title:	**Stonecrest Pump Station Phase III**	**Project:**	**31**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Mobilization	1	LS	$ 30,000.00	$ 30,000
2	Horizontal Split Case Pump	1	EA	$ 300,000.00	$ 300,000
3	Mechanical Piping	1	LS	$ 45,000.00	$ 45,000
4	Control Valve	1	LS	$ 30,000.00	$ 30,000
5	Feeder and soft starter to pump	1	LS	$ 50,000.00	$ 50,000
6	Electrical	1	LS	$ 50,000.00	$ 50,000
7	SCADA/Instumentation	1	LS	$ 50,000.00	$ 50,000

Basis for Cost Projection:

- ☑ No Design Completed
- ☐ Preliminary Design
- ☐ Final Design

Subtotal:			$ 555,000
Eng/Survey Fees (+/- %):	15		$ 84,000
Contingency (+/- %):	25		$ 151,000
Prop Acquisition:			$ -
Total:			$ 790,000

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

Client:	**Flower Mound**	**Date:**	**10/26/2020**
Project:	**Water Impact Fee Updates**	**Prepared By:**	**LMB**
KHA No.:	**061000201**	**Checked By:**	**MAS**

Title: **West Side Water Line (West)** **Project:** **32**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Mobilization	1	LS	$ 50,000.00	$ 50,000
2	12" Water Line	5,600	LF	$ 120.00	$ 672,000
3	Trench Safety	5,300	LF	$ 2.00	$ 10,600
4	Seed, Fertilizer and Erosion Control	5,300	LF	$ 10.00	$ 53,000
5	12" Gate Valve (1 per 500 lf of pipe)	12	EA	$ 5,000.00	$ 60,000
6	Fire Hydrant Assembly (1 per 500 lf of pipe)	12	EA	$ 7,500.00	$ 90,000
7	Bore with 24" Steel Casing	300	LF	$ 600.00	$ 180,000
8	Connect to Small Diameter Water Line	7	EA	$ 5,000.00	$ 35,000
9	Hydrostatic Testing and Disinfection (Short)	1	LS	$ 10,000.00	$ 10,000

Basis for Cost Projection:

- [x] No Design Completed
- [ ] Preliminary Design
- [ ] Final Design

Subtotal:			$ 1,110,600
Eng/Survey Fees (+/- %):	15		$ 167,000
Contingency (+/- %):	25		$ 279,400
Prop Acquisition:			$ -
Total:			$ 1,560,000

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

Client:	**Flower Mound**	**Date:**	**10/26/2020**
Project:	**Water Impact Fee Updates**	**Prepared By:**	**LMB**
KHA No.:	**061000201**	**Checked By:**	**MAS**

Title: **West Side Water Line (East)** **Project:** **33**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Mobilization	1	LS	$ 130,000.00	$ 130,000
2	16" Water Line	12,300	LF	$ 150.00	$ 1,845,000
3	20" Water Line	2,700	LF	$ 210.00	$ 567,000
4	Trench Safety	15,000	LF	$ 2.00	$ 30,000
5	Seed, Fertilizer and Erosion Control	15,000	LF	$ 10.00	$ 150,000
6	16" Gate Valve (1 per 3,000 lf of pipe)	7	EA	$ 12,000.00	$ 84,000
7	20" Gate Valve with Vault (1 per 3,000 lf of pipe)	2	EA	$ 35,000.00	$ 70,000
8	Fire Hydrant Assembly (1 per 500 lf of pipe)	8	EA	$ 7,500.00	$ 60,000
9	Connect to Large Diameter Water Line	3	EA	$ 15,000.00	$ 45,000
10	Hydrostatic Testing and Disinfection (Long)	1	LS	$ 20,000.00	$ 20,000
11	Combination 2" Blow Off Valve & Vault	5	EA	$ 7,500.00	$ 37,500
12	Combination 2" Air Release/Vacuum Valve & Vault	5	EA	$ 10,000.00	$ 50,000
13	Cathodic Protection	5	EA	$ 75,000.00	$ 375,000

Basis for Cost Projection:

- [x] No Design Completed
- [ ] Preliminary Design
- [ ] Final Design

Subtotal:		$ 3,463,500
Eng/Survey Fees (+/- %):	15	$ 520,000
Contingency (+/- %):	25	$ 866,500
Prop Acquisition:		$ -
Total:		$ 4,850,000

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

Client:	**Flower Mound**	**Date:**	**10/26/2020**
Project:	**Water Impact Fee Updates**	**Prepared By:**	**LMB**
KHA No.:	**061000201**	**Checked By:**	**MAS**

Title:	**West Side Water Line (South)**	**Project:**	**34**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Mobilization	1	LS	$ 120,000.00	$ 120,000
2	12" Water Line	19,100	LF	$ 120.00	$ 2,292,000
3	Trench Safety	18,800	LF	$ 2.00	$ 37,600
4	Seed, Fertilizer and Erosion Control	18,750	LF	$ 10.00	$ 187,500
5	Concrete Pavement Repair	28	SY	$ 110.00	$ 3,056
6	12" Gate Valve (1 per 500 lf of pipe)	39	EA	$ 5,000.00	$ 195,000
7	Fire Hydrant Assembly (1 per 500 lf of pipe)	39	EA	$ 7,500.00	$ 292,500
8	Bore with 24" Steel Casing	300	LF	$ 600.00	$ 180,000
9	Connect to Small Diameter Water Line	1	EA	$ 5,000.00	$ 5,000
10	Connect to Large Diameter Water Line	2	EA	$ 15,000.00	$ 30,000
11	Hydrostatic Testing and Disinfection (Long)	1	LS	$ 20,000.00	$ 20,000

Basis for Cost Projection:

- [x] No Design Completed
- [ ] Preliminary Design
- [ ] Final Design

Subtotal:			$ 3,242,656
Eng/Survey Fees (+/- %):	15		$ 487,000
Contingency (+/- %):	25		$ 817,344
Prop Acquisition:			$ -
Total:			$ 4,550,000

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

Client:	**Flower Mound**	**Date:**	**10/26/2020**
Project:	**Water Impact Fee Updates**	**Prepared By:**	**LMB**
KHA No.:	**061000201**	**Checked By:**	**MAS**

Title: **Cowboy Lane Water Line** **Project:** **35**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Mobilization	1	LS	$ 30,000.00	$ 30,000
2	12" Water Line	3,800	LF	$ 120.00	$ 456,000
3	Trench Safety	3,800	LF	$ 2.00	$ 7,600
4	Seed, Fertilizer and Erosion Control	3,750	LF	$ 10.00	$ 37,500
5	Concrete Pavement Repair	25	SY	$ 110.00	$ 2,750
6	12" Gate Valve (1 per 500 lf of pipe)	8	EA	$ 5,000.00	$ 40,000
7	Fire Hydrant Assembly (1 per 500 lf of pipe)	8	EA	$ 7,500.00	$ 60,000
8	Connect to Small Diameter Water Line	1	EA	$ 5,000.00	$ 5,000
9	Connect to Large Diameter Water Line	1	EA	$ 15,000.00	$ 15,000
10	Hydrostatic Testing and Disinfection (Short)	1	LS	$ 10,000.00	$ 10,000

Basis for Cost Projection:

- ☑ No Design Completed
- ☐ Preliminary Design
- ☐ Final Design

Subtotal:			$ 663,850
Eng/Survey Fees (+/- %):	15		$ 100,000
Contingency (+/- %):	25		$ 166,150
Prop Acquisition:			$ -
Total:			$ 930,000

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

Client:	**Flower Mound**	**Date:**	**10/26/2020**
Project:	**Water Impact Fee Updates**	**Prepared By:**	**LMB**
KHA No.:	**061000201**	**Checked By:**	**MAS**

Title: **Lusk/Red Rock East-West Connector** **Project:** **36**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Mobilization	1	LS	$ 120,000.00	$ 120,000
2	16" Water Line	15,500	LF	$ 150.00	$ 2,325,000
3	Trench Safety	15,450	LF	$ 2.00	$ 30,900
4	Seed, Fertilizer and Erosion Control	15,350	LF	$ 10.00	$ 153,500
5	Concrete Pavement Repair	70	SY	$ 110.00	$ 7,700
6	16" Gate Valve (1 per 3,000 lf of pipe)	6	EA	$ 12,000.00	$ 72,000
7	Fire Hydrant Assembly (1 per 2,500 lf of pipe)	7	EA	$ 7,500.00	$ 52,500
8	Bore with 30" Steel Casing	50	LF	$ 750.00	$ 37,500
9	Connect to Small Diameter Water Line	3	EA	$ 5,000.00	$ 15,000
10	Hydrostatic Testing and Disinfection (Long)	1	LS	$ 20,000.00	$ 20,000
11	Combination 4" Blow Off Valve & Vault	6	EA	$ 20,000.00	$ 60,000
12	Combination 2" Air Release/Vacuum Valve & Vault	6	EA	$ 10,000.00	$ 60,000
13	Cathodic Protection	1	LS	$ 75,000.00	$ 75,000

Basis for Cost Projection:

- ☑ No Design Completed
- ☐ Preliminary Design
- ☐ Final Design

Subtotal:		$ 3,029,100
Eng/Survey Fees (+/- %):	15	$ 455,000
Contingency (+/- %):	25	$ 765,900
Prop Acquisition:		$ -
Total:		$ 4,250,000

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

Client:	**Flower Mound**	**Date:**	**10/26/2020**
Project:	**Water Impact Fee Updates**	**Prepared By:**	**LMB**
KHA No.:	**061000201**	**Checked By:**	**MAS**

Title:	**Scenic Drive Water Line (S of FM 1171 to River Hill Drive)**	**Project:**	**37**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Mobilization	1	LS	$ 40,000.00	$ 40,000
2	12" Water Line	6,200	LF	$ 120.00	$ 744,000
3	Trench Safety	6,200	LF	$ 2.00	$ 12,400
4	Seed, Fertilizer and Erosion Control	6,050	LF	$ 10.00	$ 60,500
5	Concrete Pavement Repair	83	SY	$ 110.00	$ 9,167
6	12" Gate Valve (1 per 500 lf of pipe)	13	EA	$ 5,000.00	$ 65,000
7	Fire Hydrant Assembly (1 per 500 lf of pipe)	13	EA	$ 7,500.00	$ 97,500
8	Connect to Small Diameter Water Line	4	EA	$ 5,000.00	$ 20,000
9	Hydrostatic Testing and Disinfection (Short)	1	LS	$ 10,000.00	$ 10,000

Basis for Cost Projection:

- [x] No Design Completed
- [ ] Preliminary Design
- [ ] Final Design

Subtotal:			$ 1,018,567
Eng/Survey Fees (+/- %):	15		$ 153,000
Contingency (+/- %):	25		$ 261,433
Prop Acquisition:			$ -
Total:			$ 1,430,000

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

Client:	**Flower Mound**	**Date:**	**10/26/2020**
Project:	**Water Impact Fee Updates**	**Prepared By:**	**LMB**
KHA No.:	**061000201**	**Checked By:**	**MAS**

Title:	**Aberdeen 12-inch Water Line (FM 2499 to Lake Forest)**	**Project:**	**38**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Project Cost Provided by Town	1	LS	$ 207,187.00	$ 207,187
	Basis for Cost Projection:	**Total:**			$ 207,187
	Constructed				

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

Client:	**Flower Mound**	**Date:**	**10/26/2020**
Project:	**Water Impact Fee Updates**	**Prepared By:**	**LMB**
KHA No.:	**061000201**	**Checked By:**	**MAS**

Title: **Kirkpatrick Lane 12-inch Water Line Phase III (South of FM 1171)** **Project:** **39**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Mobilization	1	LS	$ 20,000.00	$ 20,000
2	12" Water Line	1,000	LF	$ 120.00	$ 120,000
3	Trench Safety	800	LF	$ 2.00	$ 1,600
4	Seed, Fertilizer and Erosion Control	770	LF	$ 10.00	$ 7,700
5	Concrete Pavement Repair	35	SY	$ 110.00	$ 3,850
6	12" Gate Valve (1 per 500 lf of pipe)	2	EA	$ 5,000.00	$ 10,000
7	Fire Hydrant Assembly (1 per 500 lf of pipe)	2	EA	$ 7,500.00	$ 15,000
8	Bore with 24" Steel Casing	200	LF	$ 600.00	$ 120,000
9	Connect to Small Diameter Water Line	2	EA	$ 5,000.00	$ 10,000
10	Hydrostatic Testing and Disinfection (Short)	1	LS	$ 10,000.00	$ 10,000

Basis for Cost Projection:

- ☑ No Design Completed
- ☐ Preliminary Design
- ☐ Final Design

Subtotal:			$ 318,150
Eng/Survey Fees (+/- %):	15		$ 48,000
Contingency (+/- %):	25		$ 83,850
Prop Acquisition:			$ -
Total:			$ 450,000

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

Client:	**Flower Mound**	**Date:**	**10/26/2020**
Project:	**Water Impact Fee Updates**	**Prepared By:**	**LMB**
KHA No.:	**061000152**	**Checked By:**	**MAS**

Title:	**Timber Creek 20-inch Water Line Extension**	**Project:**	**40**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Mobilization	1	LS	$ 20,000.00	$ 20,000
2	20" Water Line	550	LF	$ 210.00	$ 115,500
3	Trench Safety	470	LF	$ 2.00	$ 940
4	Seed, Fertilizer and Erosion Control	390	LF	$ 10.00	$ 3,900
5	Concrete Pavement Repair	45	SY	$ 110.00	$ 4,950
6	20" Gate Valve with Vault (1 per 3,000 lf of pipe)	1	EA	$ 35,000.00	$ 35,000
7	Fire Hydrant Assembly (1 per 2,500 lf of pipe)	1	EA	$ 7,500.00	$ 7,500
8	Bore with 36" Steel Casing	80	LF	$ 850.00	$ 68,000
9	Connect to Large Diameter Water Line	2	EA	$ 15,000.00	$ 30,000
10	Hydrostatic Testing and Disinfection (Short)	1	LS	$ 10,000.00	$ 10,000
11	Combination 6" Blow Off Valve & Vault	1	EA	$ 15,000.00	$ 15,000
12	Combination 4" Air Release/Vacuum Valve & Vault	2	EA	$ 20,000.00	$ 40,000
13	Cathodic Protection	1	LS	$ 10,000.00	$ 10,000

Basis for Cost Projection:

- ☑ No Design Completed
- ☐ Preliminary Design
- ☐ Final Design

Subtotal:		$ 340,790
Eng/Survey Fees (+/- %):	15	$ 52,000
Contingency (+/- %):	25	$ 97,210
Prop Acquisition:		$ -
Total:		$ 490,000

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

Client:	**Flower Mound**	**Date:**	**10/26/2020**
Project:	**Water Impact Fee Updates**	**Prepared By:**	**LMB**
KHA No.:	**061000201**	**Checked By:**	**MAS**

Title: **Morriss Road Water Line Phase III (Eaton to Waketon Road)** **Project:** **41**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Mobilization	1	LS	$ 170,000.00	$ 170,000
2	30" Water Line	4,400	LF	$ 275.00	$ 1,210,000
3	Trench Safety	4,100	LF	$ 2.00	$ 8,200
4	Seed, Fertilizer and Erosion Control	3,560	LF	$ 10.00	$ 35,600
5	Concrete Pavement Repair	600	SY	$ 110.00	$ 66,000
6	30" Gate Valve with Vault	2	EA	$ 90,000.00	$ 180,000
7	Fire Hydrant Assembly (1 per 2,500 lf of pipe)	3	EA	$ 7,500.00	$ 22,500
8	Bore with 48" Steel Casing	300	LF	$ 1,250.00	$ 375,000
9	Connect to Large Diameter Water Line	2	EA	$ 15,000.00	$ 30,000
10	Hydrostatic Testing and Disinfection (Short)	1	LS	$ 10,000.00	$ 10,000
11	Combination 8" Blow Off Valve & Vault	1	EA	$ 22,500.00	$ 22,500
12	Combination 6" Air Release/Vacuum Valve & Vault	1	EA	$ 30,000.00	$ 30,000
13	Cathodic Protection	1	LS	$ 75,000.00	$ 75,000

Basis for Cost Projection:

- ☑ No Design Completed
- ☐ Preliminary Design
- ☐ Final Design

Subtotal:			$ 2,234,800
Eng/Survey Fees (+/- %):	15		$ 336,000
Contingency (+/- %):	25		$ 569,200
Prop Acquisition:			$ -
Total:			$ 3,140,000

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

Client:	**Flower Mound**	**Date:**	**10/26/2020**
Project:	**Water Impact Fee Updates**	**Prepared By:**	**LMB**
KHA No.:	**061000201**	**Checked By:**	**MAS**

Title: **Morriss Road Water Line Phase IV (Waketon Road to FM 407)** **Project:** **42**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Mobilization	1	LS	$ 170,000.00	$ 170,000
2	30" Water Line	5,200	LF	$ 275.00	$ 1,430,000
3	Trench Safety	4,500	LF	$ 2.00	$ 9,000
4	Seed, Fertilizer and Erosion Control	3,960	LF	$ 10.00	$ 39,600
5	Concrete Pavement Repair	600	SY	$ 110.00	$ 66,000
6	30" Gate Valve with Vault	2	EA	$ 90,000.00	$ 180,000
7	Fire Hydrant Assembly (1 per 2,500 lf of pipe)	3	EA	$ 7,500.00	$ 22,500
8	Bore with 48" Steel Casing	700	LF	$ 1,250.00	$ 875,000
9	Connect to Large Diameter Water Line	2	EA	$ 15,000.00	$ 30,000
10	Hydrostatic Testing and Disinfection (Short)	1	LS	$ 10,000.00	$ 10,000
11	Combination 8" Blow Off Valve & Vault	1	EA	$ 22,500.00	$ 22,500
12	Combination 6" Air Release/Vacuum Valve & Vault	2	EA	$ 30,000.00	$ 60,000
13	Cathodic Protection	1	LS	$ 75,000.00	$ 75,000

Basis for Cost Projection:

- ☑ No Design Completed
- ☐ Preliminary Design
- ☐ Final Design

Subtotal:		$ 2,989,600
Eng/Survey Fees (+/- %):	15	$ 449,000
Contingency (+/- %):	25	$ 751,400
Prop Acquisition:		$ -
Total:		$ 4,190,000

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

Client:	**Flower Mound**	**Date:**	**10/26/2020**
Project:	**Water Impact Fee Updates**	**Prepared By:**	**LMB**
KHA No.:	**061000201**	**Checked By:**	**MAS**

Title: **Morriss Road 20-inch Water Line (Mallard Way to FM 3040)** **Project:** **43**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Mobilization	1	LS	$ 20,000.00	$ 20,000
2	20" Water Line	1,100	LF	$ 210.00	$ 231,000
3	Trench Safety	1,000	LF	$ 2.00	$ 2,000
4	Concrete Pavement Repair	100	SY	$ 110.00	$ 11,000
5	Seed, Fertilizer and Erosion Control	1,000	LF	$ 10.00	$ 10,000
6	20" Gate Valve with Vault (1 per 3,000 lf of pipe)	2	EA	$ 35,000.00	$ 70,000
7	Fire Hydrant Assembly (1 per 2,500 lf of pipe)	1	EA	$ 7,500.00	$ 7,500
8	Bore with 36" Steel Casing	100	LF	$ 850.00	$ 85,000
9	Connect to Large Diameter Water Line	2	EA	$ 15,000.00	$ 30,000
10	Combination 4" Air Release/Vacuum Valve & Vault	1	EA	$ 20,000.00	$ 20,000
11	Hydrostatic Testing and Disinfection (Short)	1	LS	$ 10,000.00	$ 10,000
12	Cathodic Protection	1	LS	$ 15,000.00	$ 15,000

Basis for Cost Projection:

- [x] No Design Completed
- [ ] Preliminary Design
- [ ] Final Design

Subtotal:		$ 511,500
Eng/Survey Fees (+/- %):	15	$ 77,000
Contingency (+/- %):	25	$ 131,500
Prop Acquisition:		$ -
Total:		$ 720,000

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

Client:	**Flower Mound**	**Date:**	**10/26/2020**
Project:	**Water Impact Fee Updates**	**Prepared By:**	**LMB**
KHA No.:	**061000201**	**Checked By:**	**MAS**

Title: **Lake Forest 12-inch Water Line (FM 3040 to Spinks Road)** **Project:** **44**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Mobilization	1	LS	$ 50,000.00	$ 50,000
2	12" Water Line	5,600	LF	$ 120.00	$ 672,000
3	Trench Safety	5,200	LF	$ 2.00	$ 10,400
4	Seed, Fertilizer and Erosion Control	4,850	LF	$ 10.00	$ 48,500
5	Concrete Pavement Repair	390	SY	$ 110.00	$ 42,900
6	12" Gate Valve (1 per 500 lf of pipe)	12	EA	$ 5,000.00	$ 60,000
7	Fire Hydrant Assembly (1 per 500 lf of pipe)	12	EA	$ 7,500.00	$ 90,000
8	Bore with 24" Steel Casing	400	LF	$ 600.00	$ 240,000
9	Connect to Small Diameter Water Line	2	EA	$ 5,000.00	$ 10,000
10	Connect to Large Diameter Water Line	1	EA	$ 15,000.00	$ 15,000
11	Hydrostatic Testing and Disinfection (Short)	1	LS	$ 10,000.00	$ 10,000

Basis for Cost Projection:

- ☑ No Design Completed
- ☐ Preliminary Design
- ☐ Final Design

Subtotal:			$ 1,248,800
Eng/Survey Fees (+/- %):	15		$ 188,000
Contingency (+/- %):	25		$ 323,200
Prop Acquisition:			$ -
Total:			$ 1,760,000

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

Client:	**Flower Mound**	**Date:**	**10/26/2020**
Project:	**Water Impact Fee Updates**	**Prepared By:**	**LMB**
KHA No.:	**061000201**	**Checked By:**	**MAS**

Title:	**2020 Water Master Plan and Impact Fee Updates**	**Project:**	**45**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Project Cost	1	LS	$ 179,500.00	$ 179,500
	Basis for Cost Projection:	**Total:**			$ 179,500
	Design Contract				

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

Client:	**Flower Mound**	**Date:**	**10/26/2020**
Project:	**Water Impact Fee Updates**	**Prepared By:**	**LMB**
KHA No.:	**061000201**	**Checked By:**	**MAS**

Title:	**Reuse Pump Station and Ground Storage Tanks**	**Project:**	**46**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Mobilization, Bonds, and Insurance	1	LS	$100,000.00	$100,000
2	20" Water Line	400	LF	$210.00	$84,000
3	30" TRA Supply Line	1,500	LF	$230.00	$345,000
4	20" Gate Valve	1	EA	$35,000.00	$35,000
5	Seed, Fertilizer and Erosion Control	500	LF	$10.00	$5,000
6	Concrete Pavement Repair	10	SY	$110.00	$1,100
7	Trench Safety	1,900	LF	$2.00	$3,800
8	Project Sign	1	EA	$500.00	$500
9	Connect to Large Diameter Water Line	1	EA	$15,000.00	$15,000
10	Pump Station (4500 GPM Capacity)	1	LS	$2,000,000.00	$2,000,000
11	Ground Storage Tank (2 - 2 MG)	1	LS	$3,000,000.00	$3,000,000
12	Chemical Feed Station	1	LS	$50,000.00	$50,000

Basis for Cost Projection:

- [x] No Design Completed
- [ ] Preliminary Design
- [ ] Final Design

Subtotal:			$5,639,400
Engineering, Surveying (%,+/-)	15		$840,000
Conting. (%,+/-)	25		$1,420,600
Total:			**$7,900,000**

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

Client:	**Flower Mound**	**Date:**	**10/26/2020**
Project:	**Water Impact Fee Updates**	**Prepared By:**	**LMB**
KHA No.:	**061000152**	**Checked By:**	**MAS**

Title: **Reuse Transmission Lines** **Project:** **47**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Mobilization	1	LS	$ 40,000.00	$ 40,000
2	16" Water Line	1,090	LF	$ 150.00	$ 163,500
3	20" Water Line	3,470	LF	$ 210.00	$ 728,700
4	Trench Safety	4,360	LF	$ 2.00	$ 8,720
5	Seed, Fertilizer and Erosion Control	4,360	LF	$ 10.00	$ 43,600
6	16" Gate Valve	1	EA	$ 12,000.00	$ 12,000
7	20" Gate Valve	2	EA	$ 35,000.00	$ 70,000
8	Bore with 36" Steel Casing	200	LF	$ 850.00	$ 170,000
9	Connect to Large Diameter Water Line	1	EA	$ 15,000.00	$ 15,000
10	Hydrostatic Testing and Disinfection (Short)	1	LS	$ 10,000.00	$ 10,000

Basis for Cost Projection:

- [x] No Design Completed
- [ ] Preliminary Design
- [ ] Final Design

Subtotal:			$ 1,261,520
Eng/Survey Fees (+/- %):	15		$ 190,000
Contingency (+/- %):	25		$ 318,480
Prop Acquisition:			$ -
Total:			$ 1,770,000

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

Client:	**Flower Mound**	**Date:**	**10/26/2020**
Project:	**Water Impact Fee Updates**	**Prepared By:**	**LMB**
KHA No.:	**061000152**	**Checked By:**	**MAS**

Title:	**FM 1171/Hwy 377 Central Reuse Loop**	**Project:**	**48**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Mobilization	1	LS	$ 40,000.00	$ 40,000
2	8" Water Line	7,630	LF	$ 90.00	$ 686,700
3	Trench Safety	7,180	LF	$ 2.00	$ 14,360
4	Seed, Fertilizer and Erosion Control	7,180	LF	$ 10.00	$ 71,800
5	8" Gate Valve	4	EA	$ 3,500.00	$ 14,000
6	Bore with 24" Steel Casing	450	LF	$ 600.00	$ 270,000
7	Connect to Small Diameter Water Line	2	EA	$ 5,000.00	$ 10,000
8	Hydrostatic Testing and Disinfection (Short)	1	LS	$ 10,000.00	$ 10,000

Basis for Cost Projection:

- [x] No Design Completed
- [ ] Preliminary Design
- [ ] Final Design

Subtotal:			$ 1,116,860
Eng/Survey Fees (+/- %):	15		$ 168,000
Contingency (+/- %):	25		$ 283,140
Prop Acquisition:			$ -
Total:			$ 1,570,000

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

Client:	**Flower Mound**	**Date:**	**10/26/2020**
Project:	**Water Impact Fee Updates**	**Prepared By:**	**LMB**
KHA No.:	**061000152**	**Checked By:**	**MAS**

Title:	**FM 1171 West Reuse Line**	**Project:**	**49**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Mobilization	1	LS	$ 30,000.00	$ 30,000
2	8" Water Line	4,150	LF	$ 90.00	$ 373,500
3	12" Water Line	3,700	LF	$ 120.00	$ 444,000
4	Trench Safety	7,600	LF	$ 2.00	$ 15,200
5	Seed, Fertilizer and Erosion Control	7,600	LF	$ 10.00	$ 76,000
6	8" Gate Valve	3	EA	$ 3,500.00	$ 10,500
7	12" Gate Valve	2	EA	$ 5,000.00	$ 10,000
8	Bore with 20" Steel Casing	100	LF	$ 550.00	$ 55,000
9	Bore with 24" Steel Casing	150	LF	$ 600.00	$ 90,000
10	Connect to Small Diameter Water Line	1	EA	$ 5,000.00	$ 5,000
11	Hydrostatic Testing and Disinfection (Short)	1	LS	$ 10,000.00	$ 10,000

Basis for Cost Projection:

- [x] No Design Completed
- [ ] Preliminary Design
- [ ] Final Design

Subtotal:		$ 1,119,200
Eng/Survey Fees (+/- %):	15	$ 168,000
Contingency (+/- %):	25	$ 280,800
Prop Acquisition:		$ -
Total:		$ 1,570,000

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

Client:	**Flower Mound**	**Date:**	**10/26/2020**
Project:	**Water Impact Fee Updates**	**Prepared By:**	**LMB**
KHA No.:	**061000152**	**Checked By:**	**MAS**

Title:	**FM 1171 East Reuse Line**	**Project:**	**50**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Mobilization	1	LS	$ 30,000.00	$ 30,000
2	8" Water Line	6,900	LF	$ 90.00	$ 621,000
3	Trench Safety	6,550	LF	$ 2.00	$ 13,100
4	Seed, Fertilizer and Erosion Control	6,550	LF	$ 10.00	$ 65,500
5	8" Gate Valve	4	EA	$ 3,500.00	$ 14,000
6	Bore with 20" Steel Casing	350	LF	$ 550.00	$ 192,500
7	Connect to Small Diameter Water Line	3	EA	$ 5,000.00	$ 15,000
8	Hydrostatic Testing and Disinfection (Short)	1	LS	$ 10,000.00	$ 10,000

Basis for Cost Projection:

- [x] No Design Completed
- [ ] Preliminary Design
- [ ] Final Design

Subtotal:			$ 961,100
Eng/Survey Fees (+/- %):	15		$ 145,000
Contingency (+/- %):	25		$ 248,900
Prop Acquisition:			$ -
Total:			$ 1,360,000

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

Client:	**Flower Mound**	**Date:**	**10/26/2020**
Project:	**Water Impact Fee Updates**	**Prepared By:**	**LMB**
KHA No.:	**061000152**	**Checked By:**	**MAS**

Title:	**Highway 377 Central Reuse Line**	**Project:**	**51**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Mobilization	1	LS	$ 30,000.00	$ 30,000
2	12" Water Line	6,170	LF	$ 120.00	$ 740,400
3	Trench Safety	6,120	LF	$ 2.00	$ 12,240
4	Seed, Fertilizer and Erosion Control	6,120	LF	$ 10.00	$ 61,200
5	12" Gate Valve	4	EA	$ 5,000.00	$ 20,000
6	Bore with 24" Steel Casing	50	LF	$ 600.00	$ 30,000
7	Connect to Small Diameter Water Line	3	EA	$ 5,000.00	$ 15,000
8	Hydrostatic Testing and Disinfection (Short)	1	LS	$ 10,000.00	$ 10,000

Basis for Cost Projection:

- [x] No Design Completed
- [ ] Preliminary Design
- [ ] Final Design

Subtotal:			$ 918,840
Eng/Survey Fees (+/- %):	15		$ 138,000
Contingency (+/- %):	25		$ 231,160
Prop Acquisition:			$ -
Total:			$ 1,290,000

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

Client:	**Flower Mound**	**Date:**	**10/26/2020**
Project:	**Water Impact Fee Updates**	**Prepared By:**	**LMB**
KHA No.:	**061000152**	**Checked By:**	**MAS**

Title:	**Canyon Falls Drive Reuse Line**	**Project:**	**52**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Mobilization	1	LS	$ 30,000.00	$ 30,000
2	8" Water Line	1,780	LF	$ 90.00	$ 160,200
3	12" Water Line	4,560	LF	$ 120.00	$ 547,200
4	Trench Safety	6,190	LF	$ 2.00	$ 12,380
5	Seed, Fertilizer and Erosion Control	6,190	LF	$ 10.00	$ 61,900
6	8" Gate Valve	1	EA	$ 3,500.00	$ 3,500
7	12" Gate Valve	3	EA	$ 5,000.00	$ 15,000
8	Bore with 24" Steel Casing	150	LF	$ 600.00	$ 90,000
9	Concrete Pavement Repair	67	SY	$ 110.00	$ 7,333
10	Connect to Small Diameter Water Line	1	EA	$ 5,000.00	$ 5,000
11	Hydrostatic Testing and Disinfection (Short)	1	LS	$ 10,000.00	$ 10,000

Basis for Cost Projection:

- [x] No Design Completed
- [ ] Preliminary Design
- [ ] Final Design

Subtotal:		$ 942,513
Eng/Survey Fees (+/- %):	15	$ 142,000
Contingency (+/- %):	25	$ 237,487
Prop Acquisition:		$ -
Total:		$ 1,320,000

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

Client:	**Flower Mound**	**Date:**	**10/26/2020**
Project:	**Water Impact Fee Updates**	**Prepared By:**	**LMB**
KHA No.:	**061000152**	**Checked By:**	**MAS**

Title:	**Denton Creek Boulevard South Reuse Line**	**Project:**	**53**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Mobilization	1	LS	$ 30,000.00	$ 30,000
2	12" Water Line	4,770	LF	$ 120.00	$ 572,400
3	Trench Safety	4,670	LF	$ 2.00	$ 9,340
4	Seed, Fertilizer and Erosion Control	4,670	LF	$ 10.00	$ 46,700
5	12" Gate Valve	3	EA	$ 5,000.00	$ 15,000
6	Bore with 24" Steel Casing	100	LF	$ 600.00	$ 60,000
7	Connect to Small Diameter Water Line	2	EA	$ 5,000.00	$ 10,000
8	Hydrostatic Testing and Disinfection (Short)	1	LS	$ 10,000.00	$ 10,000

Basis for Cost Projection:

- [x] No Design Completed
- [ ] Preliminary Design
- [ ] Final Design

Subtotal:			$ 753,440
Eng/Survey Fees (+/- %):	15		$ 114,000
Contingency (+/- %):	25		$ 196,560
Prop Acquisition:			$ -
Total:			$ 1,060,000

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

Client:	**Flower Mound**	**Date:**	**10/26/2020**
Project:	**Water Impact Fee Updates**	**Prepared By:**	**LMB**
KHA No.:	**061000152**	**Checked By:**	**MAS**

Title:	**UPRR Central Reuse Line**	**Project:**	**54**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Mobilization	1	LS	$ 20,000.00	$ 20,000
2	8" Water Line	5,370	LF	$ 90.00	$ 483,300
3	Trench Safety	5,220	LF	$ 2.00	$ 10,440
4	Seed, Fertilizer and Erosion Control	5,220	LF	$ 10.00	$ 52,200
5	8" Gate Valve	3	EA	$ 3,500.00	$ 10,500
6	Bore with 20" Steel Casing	150	LF	$ 550.00	$ 82,500
7	Connect to Small Diameter Water Line	1	EA	$ 5,000.00	$ 5,000
8	Hydrostatic Testing and Disinfection (Short)	2	LS	$ 10,000.00	$ 20,000

Basis for Cost Projection:

- [x] No Design Completed
- [ ] Preliminary Design
- [ ] Final Design

Subtotal:			$ 683,940
Eng/Survey Fees (+/- %):	15		$ 103,000
Contingency (+/- %):	25		$ 176,060
Prop Acquisition:			$ -
Total:			$ 960,000

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

Client:	**Flower Mound**	**Date:**	**10/26/2020**
Project:	**Water Impact Fee Updates**	**Prepared By:**	**LMB**
KHA No.:	**061000152**	**Checked By:**	**MAS**

Title:	**Stonecrest Road Reuse Line**	**Project:**	**55**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Mobilization	1	LS	$ 20,000.00	$ 20,000
2	8" Water Line	3,400	LF	$ 90.00	$ 306,000
3	Trench Safety	3,110	LF	$ 2.00	$ 6,220
4	Seed, Fertilizer and Erosion Control	3,110	LF	$ 10.00	$ 31,100
5	8" Gate Valve	2	EA	$ 3,500.00	$ 7,000
6	Bore with 20" Steel Casing	290	LF	$ 550.00	$ 159,500
7	Connect to Small Diameter Water Line	1	EA	$ 5,000.00	$ 5,000
8	Hydrostatic Testing and Disinfection (Short)	1	LS	$ 10,000.00	$ 10,000

Basis for Cost Projection:

- [x] No Design Completed
- [ ] Preliminary Design
- [ ] Final Design

Subtotal:			$ 544,820
Eng/Survey Fees (+/- %):	15		$ 82,000
Contingency (+/- %):	25		$ 145,180
Prop Acquisition:			$ -
Total:			$ 770,000

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

Client:	**Flower Mound**	**Date:**	**10/26/2020**
Project:	**Water Impact Fee Updates**	**Prepared By:**	**LMB**
KHA No.:	**061000152**	**Checked By:**	**MAS**

Title:	**Canyon Falls North Reuse Line**	**Project:**	**56**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Mobilization	1	LS	$ 20,000.00	$ 20,000
2	8" Water Line	3,520	LF	$ 90.00	$ 316,800
3	Trench Safety	3,420	LF	$ 2.00	$ 6,840
4	Seed, Fertilizer and Erosion Control	3,420	LF	$ 10.00	$ 34,200
5	8" Gate Valve	2	EA	$ 3,500.00	$ 7,000
6	Bore with 20" Steel Casing	100	LF	$ 550.00	$ 55,000
7	Concrete Pavement Repair	71	SY	$ 110.00	$ 7,822
8	Connect to Small Diameter Water Line	1	EA	$ 5,000.00	$ 5,000
9	Hydrostatic Testing and Disinfection (Short)	1	LS	$ 10,000.00	$ 10,000
10	Combination 2" Air Release/Vacuum Valve & Assembly	2	EA	$ 10,000.00	$ 20,000

Basis for Cost Projection:

- [x] No Design Completed
- [ ] Preliminary Design
- [ ] Final Design

Subtotal:			$ 482,662
Eng/Survey Fees (+/- %):	15		$ 73,000
Contingency (+/- %):	25		$ 127,338
Prop Acquisition:			$ -
Total:			$ 680,000

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

Client:	**Flower Mound**	**Date:**	**10/26/2020**
Project:	**Water Impact Fee Updates**	**Prepared By:**	**LMB**
KHA No.:	**061000152**	**Checked By:**	**MAS**

Title:	**East Reuse Lines**	**Project:**	**57**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Mobilization	1	LS	$ 50,000.00	$ 50,000
2	8" Water Line	15,150	LF	$ 90.00	$ 1,363,500
3	Trench Safety	15,150	LF	$ 2.00	$ 30,300
4	Seed, Fertilizer and Erosion Control	15,150	LF	$ 10.00	$ 151,500
5	8" Gate Valve	8	EA	$ 3,500.00	$ 28,000
6	Connect to Small Diameter Water Line	3	EA	$ 5,000.00	$ 15,000
7	Hydrostatic Testing and Disinfection (Short)	1	LS	$ 15,000.00	$ 15,000

Basis for Cost Projection:

- [x] No Design Completed
- [ ] Preliminary Design
- [ ] Final Design

Subtotal:			$ 1,653,300
Eng/Survey Fees (+/- %):	15		$ 248,000
Contingency (+/- %):	25		$ 416,700
Prop Acquisition:			$ -
Total:			$ 2,320,000

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

Client:	**Flower Mound**	**Date:**	**10/26/2020**
Project:	**Water Impact Fee Updates**	**Prepared By:**	**LMB**
KHA No.:	**061000152**	**Checked By:**	**MAS**

Title:	**Reuse Central Connector**	**Project:**	**58**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Mobilization	1	LS	$ 20,000.00	$ 20,000
2	8" Water Line	3,000	LF	$ 90.00	$ 270,000
3	Trench Safety	2,850	LF	$ 2.00	$ 5,700
4	Seed, Fertilizer and Erosion Control	2,900	LF	$ 10.00	$ 29,000
5	8" Gate Valve	2	EA	$ 3,500.00	$ 7,000
6	Bore with 20" Steel Casing	150	LF	$ 550.00	$ 82,500
7	Connect to Small Diameter Water Line	4	EA	$ 5,000.00	$ 20,000
8	Hydrostatic Testing and Disinfection (Short)	1	LS	$ 10,000.00	$ 10,000

Basis for Cost Projection:

- [x] No Design Completed
- [ ] Preliminary Design
- [ ] Final Design

Subtotal:			$ 444,200
Eng/Survey Fees (+/- %):	15		$ 67,000
Contingency (+/- %):	25		$ 115,800
Prop Acquisition:			$ -
Total:			$ 630,000

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

Client:	**Flower Mound**	**Date:**	**10/26/2020**
Project:	**Water Impact Fee Updates**	**Prepared By:**	**LMB**
KHA No.:	**061000152**	**Checked By:**	**MAS**

Title:	**Denton Creek North Distribution Line**	**Project:**	**59**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Mobilization	1	LS	$ 20,000.00	$ 20,000
2	8" Water Line	660	LF	$ 90.00	$ 59,400
3	12" Water Line	3,430	LF	$ 120.00	$ 411,600
4	Trench Safety	3,990	LF	$ 2.00	$ 7,980
5	Seed, Fertilizer and Erosion Control	3,990	LF	$ 10.00	$ 39,900
6	8" Gate Valve	1	EA	$ 3,500.00	$ 3,500
7	12" Gate Valve	2	EA	$ 5,000.00	$ 10,000
8	Bore with 20" Steel Casing	100	LF	$ 550.00	$ 55,000
9	Connect to Small Diameter Water Line	1	EA	$ 5,000.00	$ 5,000
10	Hydrostatic Testing and Disinfection (Short)	1	LS	$ 10,000.00	$ 10,000

Basis for Cost Projection:

- [x] No Design Completed
- [ ] Preliminary Design
- [ ] Final Design

Subtotal:		$ 622,380
Eng/Survey Fees (+/- %):	15	$ 94,000
Contingency (+/- %):	25	$ 157,620
Prop Acquisition:		$ -
Total:		$ 870,000

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

Client:	**Flower Mound**	**Date:**	**10/26/2020**
Project:	**Water Impact Fee Updates**	**Prepared By:**	**LMB**
KHA No.:	**061000152**	**Checked By:**	**MAS**

Title:	**Denton Creek Spine Road Reuse Lines**	**Project:**	**60**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Mobilization	1	LS	$ 30,000.00	$ 30,000
2	8" Water Line	7,130	LF	$ 90.00	$ 641,700
3	Trench Safety	7,130	LF	$ 2.00	$ 14,260
4	Seed, Fertilizer and Erosion Control	7,130	LF	$ 10.00	$ 71,300
5	8" Gate Valve	4	EA	$ 3,500.00	$ 14,000
6	Connect to Small Diameter Water Line	1	EA	$ 5,000.00	$ 5,000
7	Hydrostatic Testing and Disinfection (Short)	1	LS	$ 10,000.00	$ 10,000

Basis for Cost Projection:

- [x] No Design Completed
- [ ] Preliminary Design
- [ ] Final Design

Subtotal:			$ 786,260
Eng/Survey Fees (+/- %):	15		$ 118,000
Contingency (+/- %):	25		$ 203,740
Prop Acquisition:			$ -
Total:			$ 1,110,000

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

Client:	**Flower Mound**	**Date:**	**10/26/2020**
Project:	**Water Impact Fee Updates**	**Prepared By:**	**LMB**
KHA No.:	**061000152**	**Checked By:**	**MAS**

Title:	**Hwy 377 North Reuse Line**	**Project:**	**61**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Mobilization	1	LS	$ 10,000.00	$ 10,000
2	8" Water Line	2,680	LF	$ 90.00	$ 241,200
3	Trench Safety	2,680	LF	$ 2.00	$ 5,360
4	Seed, Fertilizer and Erosion Control	2,680	LF	$ 10.00	$ 26,800
5	8" Gate Valve	2	EA	$ 3,500.00	$ 7,000
6	Connect to Small Diameter Water Line	1	EA	$ 5,000.00	$ 5,000
7	Hydrostatic Testing and Disinfection (Short)	1	LS	$ 10,000.00	$ 10,000

Basis for Cost Projection:

- [x] No Design Completed
- [ ] Preliminary Design
- [ ] Final Design

Subtotal:			$ 305,360
Eng/Survey Fees (+/- %):	15		$ 46,000
Contingency (+/- %):	25		$ 84,640
Prop Acquisition:			$ -
Total:			$ 440,000

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

Client:	**Flower Mound**	**Date:**	**10/26/2020**
Project:	**Water Impact Fee Updates**	**Prepared By:**	**LMB**
KHA No.:	**061000152**	**Checked By:**	**MAS**

Title:	**Dunham/Hayes Reuse Loop**	**Project:**	**62**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Mobilization	1	LS	$ 20,000.00	$ 20,000
2	8" Water Line	4,970	LF	$ 90.00	$ 447,300
3	Trench Safety	4,970	LF	$ 2.00	$ 9,940
4	Seed, Fertilizer and Erosion Control	4,970	LF	$ 10.00	$ 49,700
5	8" Gate Valve	3	EA	$ 3,500.00	$ 10,500
6	Bore with 20" Steel Casing	150	EA	$ 550.00	$ 82,500
7	Connect to Small Diameter Water Line	2	EA	$ 5,000.00	$ 10,000
8	Hydrostatic Testing and Disinfection (Short)	1	LS	$ 10,000.00	$ 10,000

Basis for Cost Projection:

- [x] No Design Completed
- [ ] Preliminary Design
- [ ] Final Design

Subtotal:			$ 639,940
Eng/Survey Fees (+/- %):	15		$ 96,000
Contingency (+/- %):	25		$ 160,060
Prop Acquisition:			$ -
Total:			$ 900,000

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

Client:	**Flower Mound**	**Date:**	**10/26/2020**
Project:	**Water Impact Fee Updates**	**Prepared By:**	**LMB**
KHA No.:	**061000152**	**Checked By:**	**MAS**

Title:	**Cowboy Lane Reuse Line**	**Project:**	**63**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Mobilization	1	LS	$ 20,000.00	$ 20,000
2	8" Water Line	3,920	LF	$ 90.00	$ 352,800
3	Trench Safety	3,730	LF	$ 2.00	$ 7,460
4	Seed, Fertilizer and Erosion Control	3,730	LF	$ 10.00	$ 37,300
5	8" Gate Valve	2	EA	$ 3,500.00	$ 7,000
6	Bore with 20" Steel Casing	190	LF	$ 550.00	$ 104,500
7	Connect to Small Diameter Water Line	1	EA	$ 5,000.00	$ 5,000
8	Hydrostatic Testing and Disinfection (Short)	1	LS	$ 10,000.00	$ 10,000

Basis for Cost Projection:

- [x] No Design Completed
- [ ] Preliminary Design
- [ ] Final Design

Subtotal:			$ 544,060
Eng/Survey Fees (+/- %):	15		$ 82,000
Contingency (+/- %):	25		$ 145,940
Prop Acquisition:			$ -
Total:			$ 770,000

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

Client:	**Flower Mound**	**Date:**	**10/26/2020**
Project:	**Water Impact Fee Updates**	**Prepared By:**	**LMB**
KHA No.:	**061000152**	**Checked By:**	**MAS**

Title:	**Southwest Reuse Line**	**Project:**	**64**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Mobilization	1	LS	$ 20,000.00	$ 20,000
2	8" Water Line	4,270	LF	$ 90.00	$ 384,300
3	Trench Safety	4,270	LF	$ 2.00	$ 8,540
4	Seed, Fertilizer and Erosion Control	4,270	LF	$ 10.00	$ 42,700
5	8" Gate Valve	3	EA	$ 3,500.00	$ 10,500
6	Bore with 20" Steel Casing	150	LF	$ 550.00	$ 82,500
7	Connect to Small Diameter Water Line	1	EA	$ 5,000.00	$ 5,000
8	Hydrostatic Testing and Disinfection (Short)	1	LS	$ 10,000.00	$ 10,000

Basis for Cost Projection:

- [x] No Design Completed
- [ ] Preliminary Design
- [ ] Final Design

Subtotal:			$ 563,540
Eng/Survey Fees (+/- %):	15		$ 85,000
Contingency (+/- %):	25		$ 146,460
Prop Acquisition:			$ -
Total:			$ 800,000

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

Client:	**Flower Mound**	**Date:**	**10/26/2020**
Project:	**Water Impact Fee Updates**	**Prepared By:**	**LMB**
KHA No.:	**061000201**	**Checked By:**	**MAS**

Title:	**Lakeside Business District - Water Reuse Master Plan**	**Project:**	**65**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Project Cost Provided by Town	1	LS	$ 126,663.00	$ 126,663
	Basis for Cost Projection:	**Total:**			$ 126,663
	Project Completed				

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

Client:	**Flower Mound**	**Date:**	**10/26/2020**
Project:	**Water Impact Fee Updates**	**Prepared By:**	**LMB**
KHA No.:	**061000201**	**Checked By:**	**MAS**

Title:	**Lakeside Reuse Phase I**	**Project:**	**66**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Project Cost	1	LS	$ 9,030,000.00	$ 9,030,000
	Basis for Cost Projection:	**Total:**			$ 9,030,000
	Alan Plummer 2018 Reuse Master Plan Report				

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

Client:	**Flower Mound**	**Date:**	**10/26/2020**
Project:	**Water Impact Fee Updates**	**Prepared By:**	**LMB**
KHA No.:	**061000201**	**Checked By:**	**MAS**

Title:	**Lakeside Reuse Phase II**	**Project:**	**67**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Project Cost	1	LS	$ 5,450,000.00	$ 5,450,000
	Basis for Cost Projection:	**Total:**			$ 5,450,000
	Alan Plummer 2018 Reuse Master Plan Report				

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

Client:	**Flower Mound**	**Date:**	**10/26/2020**
Project:	**Water Impact Fee Updates**	**Prepared By:**	**LMB**
KHA No.:	**061000201**	**Checked By:**	**MAS**

Title:	**Lakeside Reuse Phase III**	**Project:**	**68**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Project Cost	1	LS	$ 5,630,000.00	$ 5,630,000
	Basis for Cost Projection:	**Total:**			$ 5,630,000
	Alan Plummer 2018 Reuse Master Plan Report				

THE TOWN OF FLOWER MOUND TEXAS

2020

Wastewater

Impact Fee Update

Town of Flower Mound, Texas

Kimley»Horn

Town of Flower Mound, Texas

Wastewater Impact Fee Update Report for 2020

November 2020

Prepared for:
Town of Flower Mound

FINAL

Prepared by:

Kimley-Horn and Associates, Inc.
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TBPE Firm Registration Number: F-928

Project Number: 061000201

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LICENSED
PROFESSIONAL ENGINEER
11-5-20

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Introduction

Chapter 395 of the Texas Local Government Code describes the procedure Texas political subdivisions must follow in order to assess impact fees for new development. The first step required in updating impact fees is the development of Land Use Assumptions. These Land Use Assumptions, including both population and employment estimates, form the basis for the development of impact fee Capital Improvement Plans for roadway, wastewater, and water, facilities.

Reasonable future growth estimates are necessary in order to aid the Town of Flower Mound in establishing the need for capital improvements required to serve future development. In accordance with Chapter 395, Kimley-Horn and Associates, Inc. (Kimley-Horn) has compiled the information required to complete the update of the Land Use Assumptions using the following sources: the Town of Flower Mound Future Land Use Plan, previous land use assumptions used for recent thoroughfare plan modeling, consultation with Town staff, and building permit history. Included in this report are the growth projections based on assumptions pertaining to the type, location, quantity, and timing of various future land uses within the Town. In addition, this report also documents the methodology used in generating the growth and land use assumptions.

The Town of Flower Mound retained the services of Kimley-Horn for the purpose of updating the impact fees for wastewater system improvements required to serve new development. The existing fees were adopted by the Town in 2015 in accordance with Chapter 395 of the *Local Government Code* (impact fees), which requires a city imposing impact fees to update the land-use assumptions and capital improvements plan upon which the fees are calculated.

The purpose of this report is to satisfy the requirements of the law and provide the Town with an updated impact fee capital improvements plan and associated impact fees.

For convenience and reference, the following is excerpted from Chapter 395 of the code:

(a) The political subdivision shall use qualified professionals to prepare the capital improvements plan and to calculate the impact fee. The capital improvements plan must contain specific enumeration of the following items:

(1) a description of the existing capital improvements within the service area and the costs to upgrade, update, improve, expand, or replace the improvements to meet existing needs and usage and stricter safety, efficiency, environmental, or regulatory standards, which shall be prepared by a qualified professional engineer licensed to perform such professional engineering services in this state;

(2) an analysis of the total capacity, the level of current usage, and commitments for usage of capacity of the existing capital improvements, which shall be prepared by a qualified professional engineer licensed to perform such professional engineering services in this state;

(3) a description of all or the parts of the capital improvements or facility expansions and their costs necessitated by and attributable to new development in the service area based on the approved land use assumptions, which shall be prepared by a qualified professional engineer licensed to perform such professional engineering services in this state;

(4) a definitive table establishing the specific level or quantity of use, consumption, generation, or discharge of a service unit for each category of capital improvements or facility expansions and an

equivalency or conversion table establishing the ratio of a service unit to various types of land uses, including but not limited to residential, commercial, and industrial;

(5) the total number of projected service units necessitated by and attributable to new development within the service area based on the approved land use assumptions and calculated in accordance with generally accepted engineering or planning criteria;

(6) the projected demand for capital improvements or facility expansions required by new service units projected over a reasonable period of time, not to exceed 10 years; and

(7) a plan for awarding:

(A) a credit for the portion of ad valorem tax and utility service revenues generated by new service unit during the program period that is used for the payment of improvements, including the payment of debt, that are included in the capital improvements plan; or

(B) in the alternative, a credit equal to 50 percent of the total project cost of implementing the capital improvements plan.

The impact fee study includes information from the *2015 Wastewater Master Plan Update* completed by Kimley-Horn in May 2015 and from the *2020 Wastewater Model Update* completed by Kimley-Horn in 2020. The impact fees are based on recommended capital improvements and population growth projections outlined in the *2020 Wastewater Model Update.*

The study process was comprised of three tasks:

A. Land Use Assumptions

This task involved evaluating the existing and future land use plan and projecting future growth for the Town. Kimley-Horn worked with Town staff to determine future projections. The growth projections were then used to project wastewater flow throughout the Town.

B. Impact Fee Capital Improvements Plan

This task involved evaluation of the wastewater capital improvements plan outlined in the master plan and discussion with Town staff to identify projects that will be built in the 10-year planning window and meet the design criteria.

C. Impact Fee Analysis and Report

This task included calculating the additional service units, service unit equivalents, and credit reduction. These values were then used to determine the impact fee per service unit and the maximum assessable impact fee by meter size.

Executive Summary

This study was performed to update the Town of Flower Mound's Wastewater System Impact Fees. Wastewater system analysis and the Wastewater System Master Plan are important tools for facilitating orderly growth of the wastewater system and for providing adequate facilities that promote economic development in the Town of Flower Mound. The implementation of an impact fee is a way to shift a portion of the burden of paying for new facilities onto new development.

Elements of the wastewater system, including gravity pipes, force mains and lift station facilities, were evaluated against industry standards as outlined in the Design Criteria section of this report. Information related to the growth of the Town was developed based on the future land use plan and direction from Town staff.

Texas impact fee law (Chapter 395) requires that if a system has multiple service areas those areas must be evaluated individually to determine the appropriate fee for each service area. The Town has five wastewater service areas, Long Prairie, Lakeside, Denton Creek, Prairie Vista and Cross Timbers Conservation service area. The Cross Timbers Conservation area currently has no sewer service and there are no future plans to provide sewer to this area, thus there are no future system needs and no impact fees associated with this area.

The other four service areas were evaluated to determine the necessary wastewater system improvements required to serve the 10-year (2030) and ultimate system needs. Typically, infrastructure improvements are sized beyond the 10-year requirements; however, Texas' impact fee law (Chapter 395) only allows recovery of costs to serve the 10-year planning period. For example, the projected total cost to serve the ultimate system needs for all four impact fee eligible service areas will be $52,505,795. Of this, $17,767,572 is projected to be eligible for recovery through impact fees within the next 10 years. A portion of the remainder can be assessed as the planning window extends beyond 2030 and as the impact fees are updated in the future.

The impact fee law defines a service unit as follows, "'Service Unit' means a standardized measure of consumption attributable to an individual unit of development calculated in accordance with generally accepted engineering or planning standards and based on historical data and trends applicable to the political subdivision in which the individual unit of development is located during the previous 10 years." Therefore, the Town of Flower Mound defines a *service unit* as a unit of development that consumes the amount of water requiring a standard 5/8"x 3/4" meter. For a development that requires a different size meter, a service unit equivalent is established at a multiplier based on its capacity with respect to the 5/8"x 3/4" meter. The equivalency factor and associated impact fee by meter size is shown in Table 2.1.

Based on the Town's 10-year growth projections and the associated flow values, a total of 8,301 additional service units will need wastewater service by the year 2030. Table 2.2 shows the additional service unit breakdown by service area. Based on the additional service units and the recoverable capital improvements plans, the maximum impact fee per service unit was calculated for each service area. Table 2.1 shows the maximum allowable impact fees for the four service areas.

Table 2.1 Maximum Assessable Wastewater Impact Fee for Commonly Used Meters

Meter Size*	Maximum Continuous Operating Capacity (GPM)**	Service Unit Equivalent	Maximum Assessable Fee per Service Area ($)			
			Long Prairie	Lakeside	Denton Creek	Prairie Vista
5/8"x 3/4" PD	10	1	2,862	2,428	586	456
3/4" PD	15	1.5	4,293	3,642	879	684
1" PD	25	2.5	7,155	6,070	1,465	1,140
1 1/2" PD	50	5	14,310	12,140	2,930	2,280
2" PD	80	8	22,896	19,424	4,688	3,648
2" Compound	80	8	22,896	19,424	4,688	3,648
2" Turbine	160	16	45,792	38,848	9,376	7,296
3" Compound	175	17.5	50,085	42,490	10,255	7,980
3" Turbine	350	35	100,170	84,980	20,510	15,960
4" Compound	300	30	85,860	72,840	17,580	13,680
4" Turbine	650	65	186,030	157,820	38,090	29,640
6" Compound	675	67.5	193,185	163,890	39,555	30,780
6" Turbine	1400	140	400,680	339,920	82,040	63,840
8" Compound	900	90	257,580	218,520	52,740	41,040
8" Turbine	2,400	240	686,880	582,720	140,640	109,440
10" Turbine	3,500	350	1,001,700	849,800	205,100	159,600

*PD = Positive Displacement Meter (typical residential meter)
**Operating capacities obtained from American Water Works Associate (AWWA) C700-15, C701-15, and C702-19. Turbine and Compound meter flows are based on Class II (in-line) meters.

Table 2.2 Additional Service Units - 2030

Service Area	2030 Additional Service Units
Long Prairie	1,371
Lakeside	3,113
Denton Creek	2,372
Prairie Vista	1,445
TOTAL	8,301

Design Criteria

A. Sewer Trunk Lines (Interceptors)

The design criteria for sewer trunk lines or interceptors is based on the TCEQ requirements that meet peak wet weather design flows with no overflows while maintaining a minimum of 2 ft/sec cleaning velocity and a maximum of 8 ft/sec velocity.

B. Lift Stations Pumping Capacity

The design criteria for lift station pumping shall be to provide firm pumping capacity to meet the peak wet weather design flows. The firm pumping capacity is defined as the available total pumping capacity with the largest pump out of service.

C. Lift Station Wet Well Capacity

The design criteria for lift station wet wells are to provide adequate volumes to limit pump cycling to once every 10 minutes. Based on this criterion, the required operating volume for each pump can be calculated as

V = tQ/4 where,

t = Maximum pump cycling time = 10 minutes

Q = Lead pump discharge rate in gallons per minute (gpm)

V = Required wet well volume between pump start and stop elevation

D. Force Mains

The design criteria recommended for force mains is to meet the required pumping capacity of the lift station at a velocity less than 8 feet per second and a maximum discharge pressure of 100 psi and to allow a minimum of 2 feet per second scouring velocity during a single pump operation.

E. Wastewater Demand

The criteria used for projecting the wastewater demands for the four service areas were derived from the 2020 Wastewater Model Update.

For the Long Prairie and Lakeside service areas, residential and commercial flows were obtained for existing developments. As part of the Model Update, a large amount of data was collected throughout the Long Prairie and Lakeside service areas. This data was used to calibrate the existing and buildout demands in the updated model. For the Denton Creek and Prairie Vista service areas, projected build out flows were also calculated in the Model Update based on the future land use plan.

Impact Fee Capital Improvements Plan

Kimley-Horn assisted the Town with an update to the wastewater model. The update included an evaluation of existing and future demands along with the required infrastructure needed to serve future needs. The model update recommended system improvements to accommodate growth through the Town's build-out.

The Town's Wastewater system is divided into five service areas, Long Prairie, Lakeside, Denton Creek, Prairie Vista, and Cross Timbers Conservation District. Each of these areas must be evaluated individually to determine the maximum impact fee allowable for each service area.

The Long Prairie service area has twelve (12) projects which are determined eligible for recoverable cost through impact fee over the next 10 years. The total cost of these projects is $36,823,649. The projected total recoverable through impact fees is $6,601,303. After financing costs are added and the credit calculation is completed, $3,925,349 is recoverable through impact fees serving the 10-year system needs. These impact fee capital improvements are shown in Table 2.3.1 and illustrated in Figure 2.1.

The Lakeside service area has Seven (7) projects which are determined eligible for recoverable cost through impact fee over the next 10 years. The total cost of these projects is $25,921,362. The projected total recoverable through impact fees is $8,682,056. After financing costs are added and the credit calculation is completed, $7,558,414 is recoverable through impact fees serving the 10-year system needs. These impact fee capital improvements are shown in Table 2.3.2 and illustrated in Figure 2.1.

Both the Denton Creek and Prairie Vista service areas are to be served by the Trinity River Authority (TRA) through an agreement the Town has entered into with TRA. The Town will participate in cost sharing for infrastructure related to service for this part of town. A total average daily flow of 3.83 MGD is projected for these two service areas, 2.38 MGD for Denton Creek and 1.45 MGD for Prairie Vista. Denton Creek makes up approximately 62% of the total projected 3.83 MGD flow and Prairie Vista makes up the remaining 38%. The total cost associated with the TRA agreement is $8,860,048. The projected total recoverable through impact fees is $1,529,172 for Denton Creek and $955,041 for Prairie Vista. After financing costs are added and the credit calculation is completed, the recoverable amount through impact fees serving the 10-year system needs is $1,391,931 for Denton Creek and $659,634 for Prairie Vista. A detailed cost breakdown of the TRA agreement can be found in Table 2.3.4. The impact fee capital improvements are shown in Table 2.3.5 and illustrated in Figure 2.2.

The Cross Timbers Conservation District does not currently have sewer service, and there are no plans to provide service in the future. Therefore, this area has no wastewater capital improvement projects associated with it and thus no wastewater impact fee.

Table 2.3.1 Long Prairie
Wastewater Impact Fee Capital Improvements
Project Cost and 10-Year Recoverable Cost

Proj #	Description	2020 Required Capacity (Percent Utilized)	2030 Required Capacity (Percent Utilized)	2020-2030 Required Capacity (Percent Utilized)	Total Project Cost	2030 Project Recoverable Cost
1	Bakers Branch Collector Phase I (Gerault to Lower Timber Interceptor)	41%	60%	19%	$607,181	$115,364
2	Bakers Branch Wastewater Collector Phase II (Lexington Ave to Gerault Rd)	22%	45%	23%	$1,351,217	$310,780
3	Oak Street Lift Station Phase III and Force Main	49%	78%	29%	$5,833,654	$1,691,760
4	Oak Street Lift Station and Force Main Phase IV	74%	84%	10%	$3,400,000	$340,000
5	Upper Timber Creek Interceptor Phase I (FM 2499 to Morriss Rd and Buckthorn Ct to FM 1171)	42%	68%	26%	$1,525,872	$396,727
6	Upper Timber Creek Interceptor Phase III (FM 1171 to Hidden Forest Drive)	20%	57%	37%	$2,448,208	$905,837
7	Upper Timber Interceptor (College Parkway to Pecan Drive)	0%	31%	31%	$480,000	$148,800
8	Wellington Interceptor Improvements (Sections I and II)	27%	77%	50%	$1,345,254	$672,627
9	Riverwalk Collector (Morris Road to Windsor Drive)	0%	57%	57%	$530,000	$302,100
10	2001 Wastewater Treatment Plant Improvements[2]	-	-	-	$19,191,263	$1,606,309
11	2020 Wastewater Master Plan and Impact Fee Updates[1]	0%	100%	100%	$46,000	$46,000
12	Wastewater Treatment Plant Master Plan[3]	0%	100%	100%	$65,000	$65,000
	Total				$36,823,649	$6,601,303

[1]Master Plan and Impact Fee Update Costs were divided equally among the four (4) impact fee eligible service areas

[2]Refer to Table 2.3.3 for Service Area proportional cost breakdown

[3]WWTP Master Plan was divided proportionally between Long Prairie and Lakeside Service Areas

Table 2.3.2 Lakeside
Wastewater Impact Fee Capital Improvements
Project Cost and 10-Year Recoverable Cost

Proj #	Description	2020 Required Capacity (Percent Utilized)	2030 Required Capacity (Percent Utilized)	2020-2030 Required Capacity (Percent Utilized)	Total Project Cost	2030 Project Recoverable Cost
1	Lakeside Lift Station and Force Main	25%	100%	75%	$2,499,099	$1,874,324
2	Southside Force Main Extension	0%	75%	75%	$2,020,000	$1,515,000
3	Southside Pump Upgrade	0%	75%	75%	$530,000	$397,500
4	Southside Gravity Main Improvements	0%	77%	77%	$1,570,000	$1,208,900
5	2001 Wastewater Treatment Plant Improvements[2]	-	-	-	$19,191,263	$3,575,332
6	2020 Wastewater Master Plan and Impact Fee Updates[1]	0%	100%	100%	$46,000	$46,000
7	Wastewater Treatment Plant Master Plan[3]	0%	100%	100%	$65,000	$65,000
	Total				$25,921,362	$8,682,056

[1]Master Plan and Impact Fee Update Costs were divided equally among the four (4) impact fee eligible service areas

[2]Refer to Table 2.3.3 for Service Area proportional cost breakdown

[3]WWTP Master Plan was divided proportionally between Long Prairie and Lakeside Service Areas

In 2001 the Town's wastewater treatment plant was upgraded. The upgrade increased the plant capacity from 5 MGD to 10 MGD. The plant treats flow from both the Long Prairie and Lakeside service areas. Since both service areas flow to the plant, each service area may be proportioned a percentage of the improvement costs associated with the plant upgrade. Table 2.3.3 shows the total recoverable cost for the 2001 improvements and also shows what percentages of the recoverable cost may be applied to each service area. The percent for each service area is based on the service area's projected flow.

Table 2.3.3
Wastewater Treatment Plant
Project Cost and 10-Year Recoverable Cost

Description	2020 Required Capacity (Percent Utilization)	2030 Required Capacity (Percent Utilization)	2020-2030 Required Capacity (Percent Utilization)	Total Project Cost	2030 Projected Recoverable Cost
2001 Wastewater Treatment Plant Improvements	73%	100%	27%	$19,191,263	$5,181,641

Proportional Recoverable Costs for Long Prairie and Lakeside Service Areas		
Description	Percentage of Projected 2030 Growth	2030 WWTP Recoverable Cost
Long Prairie[1]	31%	$1,606,309
Lakeside[1]	69%	$3,575,332
Total		$5,181,641

[1]Percentage of proportional cost for Long Prairie and Lakeside Service areas is based on ratio of projected growth for each service area

Table 2.3.4
Trinity River Authority Contract Breakdown

Trinity River Authority - Denton Creek Wastewater Transportation System Contract		
Phase 1	$	4,275,352
Additional Town Reimbursable Cost	$	691,837
CDBG Funds Utilized for TRA Agreement	$	(135,595)
CDBG Fund Utilized for Engineering Services	$	(197,785)
Phase 2	$	4,226,239
Total	$	8,860,048

Proportional Total Cost per Service Area	
Denton Creek (62%)	$ 5,493,230
Prairie Vista (38%)	$ 3,366,818

Table 2.3.5
Denton Creek and Prairie Vista
Wastewater Impact Fee Capital Improvements
Project Cost and 10-Year Recoverable Cost

Denton Creek Service Area

Proj #	Description	2020 Required Capacity (Percent Utilized)	2030 Required Capacity (Percent Utilized)	2020-2030 Required Capacity (Percent Utilized)	Total Project Cost	2030 Project Recoverable Cost
1	TRA System Contract	8%	35%	27%	$5,493,230	$1,483,172
2	2020 Wastewater Master Plan and Impact Fee Updates[1]	0%	100%	100%	$46,000	$46,000
	Total				$5,539,230	$1,529,172

[1]Master Plan and Impact Fee Update Costs were divided equally among the four (4) impact fee eligible service areas

Prairie Vista Service Area

Proj #	Description	2020 Required Capacity (Percent Utilized)	2030 Required Capacity (Percent Utilized)	2020-2030 Required Capacity (Percent Utilized)	Total Project Cost	2030 Project Recoverable Cost
1	TRA System Contract	0%	27%	27%	$3,366,818	$909,041
2	2020 Wastewater Master Plan and Impact Fee Updates[1]	0%	100%	100%	$46,000	$46,000
	Total				$3,412,818	$955,041

[1]Master Plan and Impact Fee Update Costs were divided equally among the four (4) impact fee eligible service areas

LONG PRAIRIE SERVICE AREA

LAKESIDE SERVICE AREA

Grapevine Lake

LONG PRAIRIE RD
DIXON LN
VALLEY RIDGE BLVD
FM 407
12"
7
KIRKPATRICK LN
WAKETON RD
MORRISS RD
BRIDLEWOOD BLVD
15"
7
15"
27"
5
7
COLLEGE PKWY
GARDEN RIDGE RD
FM 1171
15"
15"
9
FM 2499
CROSS TIMBERS RD
BRUTON ORAND BLVD
QUAIL RUN
30"/ 33"
27"
5
6
FIREWHEEL DR
OAK DR
27"
27"
3
4
8
21"
8
FOREST VISTA DR
WICHITA TRL
SIMMONS RD
OLD SETTLERS RD
MORRISS RD
MCKAMY CREEK RD
FM 3040
FM 3040
2
1
18"
21"
SPINKS RD
2
18" FM
5
10
FM 2499
GERAULT RD
3
18" FM
LAKESIDE PKWY
4
12"
1
4
15"
INTERNATIONAL PKWY
1
3

TOWN OF FLOWER MOUND
Wastewater Impact Fee CIP
Long Prairie and Lakeside

THE TOWN OF FLOWER MOUND TEXAS

N W E S

0 2,800 5,600 Feet

Kimley»Horn

November 2020

Legend

- Wastewaster Treatment Plant
- Lakeside Basin Lift Station
- Long Prairie Basin Lift Station
- Wastewater Force Main
- Lakeside
- Long Prairie
- Service Area Boundary

Flower Mound Wastewater CIP Project List (Long Prairie)

1. Bakers Branch Collector Phase I (Gerault to Lower Timber Interceptor)
2. Bakers Branch Wastewater Collector Phase II (Lexington Ave to Gerault Rd)
3. Oak Street Lift Station Ph III and Force Main
4. Oak Street Lift Station and Force Main Phase IV
5. Upper Timber Creek Interceptor Phase I (FM 2499 to Morriss Rd and Buckthorn Ct to FM 1171)
6. Upper Timber Creek Interceptor Phase III (FM 1171 to Hidden Forest Drive)
7. Upper Timber Creek Interceptor (College Parkway to Pecan Drive)
8. Wellington Interceptor Improvements (Sections I and II)
9. Riverwalk Collector (Morriss Road to Windsor Drive)
10. 2001 Wastewater Treatment Plan Improvements

Flower Mound Wastewater CIP Project List (Lakeside)

1. Lakeside Lift Station and Force Main
2. Southside Force Main Extension
3. Southside Pump Upgrade
4. Southside Gravity Main Improvements
5. 2001 Wastewater Treatment Plan Improvements

DENTON CREEK BLVD

CANYON FALLS

SMOOT LN

DENTON CREEK
SERVICE AREA

HWY 377

PRAIRIE VISTA
SERVICE AREA

CROSS TIMBERS RD

DUNHAM RD

HAYNES RD

TOWN OF FLOWER MOUND
Wastewater Impact Fee CIP
Prairie Vista and Denton Creek
Figure 2.2

THE TOWN OF FLOWER MOUND TEXAS

N W E S

0 1,800 3,600 Feet

Kimley»Horn

November 2020

Legend

- TRA Wastewater Line
- TRA Service Area

Flower Mound Wastewater CIP Project List (Prairie Vista and Denton Creek)

1. TRA System Contract

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

A. Project Descriptions (By Service Area)

I. Long Prairie Service Area

1. Bakers Branch Wastewater Collector Phase I (Gerault Rd to Lower Timber Interceptor)
   In 2014 the Town installed approximately 1,750 LF of 21-inch wastewater main from Gerault Rd to the Lower Timber interceptor. This project replaced the existing 15-inch wastewater main to provide additional capacity for future demands.

Project Cost	$607,181
Recoverable Cost	$115,364

2. Bakers Branch Collector Phase II (Lexington Avenue to Gerault Road)
   Approximately 2,300 LF of 18-inch wastewater main was built to replace an existing 12-inch/15-inch wastewater main. The alignment begins at the intersection of Gerault Road and the east-west creek south of Lexington Avenue. The main parallels the southern fork of the creek, then parallels Strait Lane to Twilight Drive, then west approximately 1,050 LF before intersecting Lexington Avenue.

Project Cost	$1,351,217
Recoverable Cost	$310,780

3. Oak Street Phase III Lift Station and Force Main
   This project included the installation of approximately 12,700 LF of 30-inch Force Main from the Oak Street Lift Station to the WWTP. This force main parallels the existing 24-inch force main and provides additional capacity to the station.

Project Cost	$5,833,654
Recoverable Cost	$1,691,760

4. Oak Street Lift Station and Force Main Phase IV
   This project will include replacing one of the existing small 3400 gpm, 77 hp submersible pumps with a large 7000 gpm, 215 hp pump with variable frequency drive, upgrading the lift station's mechanical piping, and installing control valves for three large pumps.

Project Cost	$3,400,000
Recoverable Cost	$340,000

5. Upper Timber Creek Interceptor Phase I (FM 2499 to Morriss Rd and Buckthorn Ct to FM 1171)
   In 2013 the Town installed approximately 3,800 LF of 27-inch wastewater main from FM 2499 to Morriss Road. This project replaced the existing 15" wastewater main to provide additional capacity for future demands. As part of this project approximately 400 LF of 33-inch and 30-inch wastewater main was installed near Parker Square.

Project Cost	$1,525,872
Recoverable Cost	$396,727

6. Upper Timber Creek Interceptor Phase III (FM 1171 to Hidden Forest Drive)
Approximately 1,900 LF of 27-inch wastewater main was installed to replace an existing 24-inch main from FM 1171 to Hidden Forest Drive. The main connects to the 33-inch main constructed as part of the Upper Timber Interceptor Phase I project just north of FM 1171.

Project Cost	$2,448,208
Recoverable Cost	$905,837

7. Upper Timber Interceptor (College Parkway to Pecan Drive)
Approximately 1,240 LF of 15-inch wastewater main is proposed to replace the existing 12-inch wastewater line along Long Prairie Road south of College Parkway.

Project Cost	$480,000
Recoverable Cost	$148,800

8. Wellington Interceptor Improvements (Sections I and II)
In 2012 and 2013 the Town upgraded two sections of the Wellington interceptor. Approximately 2,500 LF of 27-inch wastewater main was installed as part of Section I and 900 LF of 21-inch wastewater main was installed as part of Section II.

Project Cost	$1,345,254
Recoverable Cost	$672,627

9. Riverwalk Collector (Morris Road to Windsor Drive)
Approximately 1,430 LF of 15-inch wastewater main is proposed running north and east from between FM 2499 and Morriss Road to Morriss Road north of the intersection with Eaton. Inflow and infiltration monitoring of the existing line is recommended prior to construction.

Project Cost	$530,000
Recoverable Cost	$302,100

10. 2001 Wastewater Treatment Plant Improvements
In 2001, the Town upgraded the existing wastewater treatment plant (WWTP). The improvements increased the WWTP capacity from 5 MGD to 10 MGD. The WWTP is oversized to meet future system needs; therefore, a portion of the station cost is recoverable through impact fees. Since the WWTP serves both the Long Prairie and Lakeside Service Areas, a proportional amount of the recoverable cost is assigned to each service area based on project flow. (See Table 2.3.3)

Project Cost	$19,191,263
Recoverable Cost	$1,606,309

11. 2020 Wastewater Master Plan and Impact Fee Updates
The major update to the Wastewater Master Plan was performed in 2020. Based on projected future infrastructure needs, a Wastewater Impact Fee Update was also completed to determine how much of the infrastructure costs may be recovered by the Town. The recoverable cost associated with the Wastewater Master Plan and Impact Fee Updates has been divided among the four service areas with impact fees.

Project Cost	$46,000
Recoverable Cost	$46,000

12. Wastewater Treatment Plant Master Plan
This project included an analysis of influent and treatment capacity of the Town's wastewater treatment plant and recommendations for future improvements at the existing treatment plant. This project cost was split evenly between the Long Prairie and Lakeside Service Areas.

Project Cost	$65,000
Recoverable Cost	$65,000

II. Lakeside Service area

1. Lakeside Lift Station and Force Main
In order to serve the projected flows for the Lakeside service area, the existing Lakeside lift station underwent improvements to add capacity to the station. This project involved the installation of two additional pumps to the existing lift station along with required electrical improvements. It also involved the installation of approximately 4,500 LF of a parallel 18-inch force main.

Project Cost	$2,499,099
Recoverable Cost	$1,874,324

2. Southside Force Main Extension
Approximately 4,600 LF of 18-inch force main is proposed to alleviate capacity constraints at the raw water lift station at the wastewater treatment plant. This force main will connect to the force main constructed as part of the Lakeside Lift Station and Force Main project and end at the Town's wastewater treatment plant.

Project Cost	$2,020,000
Recoverable Cost	$1,515,000

3. Southside Pump Upgrade
This project includes upsizing the two smaller pumps at the Southside Lift Station to add capacity to the lift station. Total projected cost for this project is $680,000, of that the Lakeside DFW development has committed to contribute $150,000 per the development agreement. This $150,000 is not included in the project cost below because it is not a recoverable cost.

Project Cost	$530,000
Recoverable Cost	$397,500

4. Southside Gravity Improvements
Approximately 2,970 LF 15-inch wastewater main and 620 LF 12-inch wastewater main is proposed to provide adequate capacity for density increases in the Lakeside area.

Project Cost	$1,570,000
Recoverable Cost	$1,208,900

5. 2001 Wastewater Treatment Plant Improvements

In 2001, the Town upgraded the existing wastewater treatment plant (WWTP). The improvements increased the WWTP capacity from 5 MGD to 10 MGD. The WWTP is oversized to meet future system needs; therefore, a portion of the station cost is recoverable through impact fees. Since the WWTP serves both the Long Prairie and Lakeside Service Areas, a proportional amount of the recoverable cost is assigned to each service area based on project flow. (See Table 2.3.3)

Project Cost	$19,191,263
Recoverable Cost	$3,575,332

6. 2020 Wastewater Master Plan and Impact Fee Updates

The major update to the Wastewater Master Plan was performed in 2020. Based on projected future infrastructure needs, a Wastewater Impact Fee Update was also completed to determine how much of the infrastructure costs may be recovered by the Town. The recoverable cost associated with the Wastewater Master Plan and Impact Fee Updates has been divided among the four service areas with impact fees.

Project Cost	$46,000
Recoverable Cost	$46,000

7. Wastewater Treatment Plant Master Plan

This project included an analysis of influent and treatment capacity of the Town's wastewater treatment plant and recommendations for future improvements at the existing treatment plant. This project cost was split evenly between the Long Prairie and Lakeside Service Areas.

Project Cost	$65,000
Recoverable Cost	$65,000

III. Denton Creek Service Area

1. TRA System Contract

The Town has entered into an agreement with the Trinity River Authority (TRA) for wastewater service for the western part of Flower Mound. As part of this agreement TRA will provide wastewater service for the area and in return Flower Mound has agreed to pay a portion of the cost associated with the infrastructure improvements necessary to serve this area. (See Table 2.3.4)

Project Cost	$5,493,230
Recoverable Cost	$1,483,172

2. 2020 Wastewater Master Plan and Impact Fee Updates

The major update to the Wastewater Master Plan was performed in 2020. Based on projected future infrastructure needs, a Wastewater Impact Fee Update was also completed to determine how much of the infrastructure costs may be recovered by the Town. The recoverable cost associated with the Wastewater Master Plan and Impact Fee Updates has been divided among the four service areas with impact fees.

Project Cost	$46,000
Recoverable Cost	$46,000

IV. Prairie Vista Service Area

1. TRA System Contract

The Town has entered into an agreement with the Trinity River Authority (TRA) for wastewater service for the western part of Flower Mound. As part of this agreement TRA will provide wastewater service for the area and in return Flower Mound has agreed to pay a portion of the cost associated with the infrastructure improvements necessary to serve this area. (See Table 2.3.4)

Project Cost	$3,366,818
Recoverable Cost	$909,041

2. 2020 Wastewater Master Plan and Impact Fee Updates

The major update to the Wastewater Master Plan was performed in 2020. Based on projected future infrastructure needs, a Wastewater Impact Fee Update was also completed to determine how much of the infrastructure costs may be recovered by the Town. The recoverable cost associated with the Wastewater Master Plan and Impact Fee Updates has been divided among the four service areas with impact fees.

Project Cost	$46,000
Recoverable Cost	$46,000

Wastewater Impact Fee Calculation

Chapter 395 of the Local Government Code defines a service unit as follows, ""*Service Unit" means a standardized measure of consumption attributable to an individual unit of development calculated in accordance with generally accepted engineering or planning standards and based on historical data and trends applicable to the political subdivision in which the individual unit of development is located during the previous 10 years.*" Therefore, the Town of Flower Mound defines a *service unit* based on historical wastewater usage over the past 10 years as compared to the estimated residential units. The residential unit is the development type that predominately uses a 5/8"x 3/4" meter. The measure of consumption per service unit is based on a 5/8"x 3/4" meter and the data shown in Table 2.4.

Table 2.4 Service Unit Consumption Calculation

Year	Population[1]	Residential Units (3.16 persons/unit) [1]	Wastewater Flow Average Day Flow (MGD)	Flow per Service Unit (GPD)
2010	58,521	20,752	5.49	265
20011	58,885	20,881	4.77	228
2012	59,177	20,985	4.60	219
2013	59,455	21,083	4.37	207
2014	60,480	21,447	4.18	195
2015	61,439	21,787	6.31	290
2016	62,504	22,165	6.31	285
2017	65,020	23,057	6.33	275
2018	66,178	23,467	5.78	246
2019	68,802	24,398	6.2	254
10-yr Average Flow per Service Unit				246
5-Yr Average Flow per Service Unit				270

Wastewater Usage Source: Town of Flower Mound
(1) Source: Land Use Assumptions, 2020
Populations and Flows are for Lakeside and Long Prairie Service Areas

The flows calculated above, 246 gpd per service unit, was considered a low estimate per the Town's recent upward trend in historical wastewater flows. In order to obtain a more accurate flow projection, the 5-year average flow of 270 gpm was used instead of the 10-year average flow.

Based on the Town's growth projections and the resulting wastewater flow projections, wastewater service will be required for 8,301 additional service units. Chapter 395 of the Local Government Code requires that service areas be evaluated individually. The Town of Flower Mound has four wastewater service areas subject to impact fees: Long Prairie, Lakeside, Denton Creek, and Prairie Vista. The growth projections must be evaluated individually for each service area, as well as the impact calculated for each service area. The calculation is as follows:

- A service unit, which is a unit of development that discharges approximately 270 gallons per day (GPD), is a typical residential connection that uses a 5/8"x 3/4" meter. Tables 2.5.1 through 2.5.4 outlines the future wastewater discharge projections and its relationship to the additional service units projected for the next 10-years.

Table 2.5.1 Long Prairie Service Area 10-year Additional Service Unit Calculation

Year	Average Day Flow (MGD)	Service Unit Demand (GPD)	Service Units
2020	6.99	270	25,903
2030	7.36	270	27,274
10-year Additional Service Units			1,371

Table 2.5.2 Lakeside Service Area 10-year Additional Service Unit Calculation

Year	Average Day Flow (MGD)	Service Unit Demand (GPD)	Service Units
2020	0.70	270	2,594
2030	1.54	270	5,707
10-year Additional Service Units			3,113

Table 2.5.3 Denton Creek Service Area 10-year Additional Service Unit Calculation

Year	Average Day Flow (MGD)	Service Unit Demand (GPD)	Service Units
2020	0.2	270	741
2030	0.84	270	3,113
10-year Additional Service Units			2,372

Table 2.5.4 Prairie Vista Service Area 10-year Additional Service Unit Calculation

Year	Average Day Flow (MGD)	Service Unit Demand (GPD)	Service Units
2020	0.00	270	0
2030	0.39	270	1,445
10-year Additional Service Units			1,445

Impact fee law allows for a credit calculation to credit back the development community based on the utility revenues or ad valorem taxes that are allocated for paying a portion of future capital improvements. The intent of this credit is to prevent the Town from double charging development for future capital improvements via impact fees and utility rates. If the city chooses not to do a financial analysis to determine the credit value, they are required by law to reduce the recoverable cost by 50 percent. The Town has chosen to perform a financial analysis. The maximum recoverable cost for impact fee or each service area is shown in Tables 2.6.1 through 2.6.4.

A breakdown of the 10-year recoverable costs and the associated impact fee for each service area per service unit is as follows:

Table 2.6.1 Long Prairie Service Area 10-year Recoverable Cost Breakdown

Recoverable Impact Fee CIP Costs	$6,601,303
Financing Costs	$1,443,740
Existing Fund Balance	($3,828,736)
Interest Earnings	($175,366)
Pre Credit Recoverable Cost for Impact Fee	$4,040,940
Credit for Utility Revenues	($115,591)
Maximum Recoverable Cost for Impact Fee	$3,925,349

$$\text{Impact fee per service unit} = \frac{\text{10-year recoverable costs}}{\text{10-year additional service units}}$$

$$\text{Impact fee per service unit} = \frac{\$3,925,349}{1,371}$$

$$\text{Impact fee per service unit} = \$2,862$$

Therefore, the maximum assessable impact fee for the Long Prairie Service area per service unit is $2,862.

Table 2.6.2 Lakeside Service Area 10-year Recoverable Cost Breakdown

Recoverable Impact Fee CIP Costs	$8,682,056
Financing Costs	$2,274,182
Existing Fund Balance	($1,619,658)
Interest Earnings	($218,048)
Pre Credit Recoverable Cost for Impact Fee	$9,118,532
Credit for Utility Revenues	($1,560,118)
Maximum Recoverable Cost for Impact Fee	$7,558,414

$$\text{Impact fee per service unit} = \frac{\text{10-year recoverable costs}}{\text{10-year additional service units}}$$

$$\text{Impact fee per service unit} = \frac{\$7,558,414}{3,113}$$

$$\text{Impact fee per service unit} = \$2,428$$

Therefore, the maximum assessable impact fee for the Lakeside Service area per service unit is $2,428.

Table 2.6.3 Denton Creek Service Area 10-year Recoverable Cost Breakdown

Recoverable Impact Fee CIP Costs	$1,529,172
Financing Costs	$283,822
Existing Fund Balance	$0
Interest Earnings	($13,437)
Pre Credit Recoverable Cost for Impact Fee	$1,799,557
Credit for Utility Revenues	($407,626)
Maximum Recoverable Cost for Impact Fee	$1,391,931

$$\text{Impact fee per service unit} = \frac{\text{10-year recoverable costs}}{\text{10-year additional service units}}$$

$$\text{Impact fee per service unit} = \frac{\$1,391,931}{2,372}$$

$$\text{Impact fee per service unit} = \$586$$

Therefore, the maximum assessable impact fee for the Denton Creek Service area per service unit is $586.

Table 2.6.4 Prairie Vista Service Area 10-year Recoverable Cost Breakdown

Recoverable Impact Fee CIP Costs	$955,041
Financing Costs	$173,955
Existing Fund Balance	($16,560)
Interest Earnings	($9,834)
Pre Credit Recoverable Cost for Impact Fee	$1,102,602
Credit for Utility Revenues	($442,969)
Maximum Recoverable Cost for Impact Fee	$659,634

$$\text{Impact fee per service unit} = \frac{\text{10-year recoverable costs}}{\text{10-year additional service units}}$$

$$\text{Impact fee per service unit} = \frac{\$659,634}{1,445}$$

$$\text{Impact fee per service unit} = \$456$$

Therefore, the maximum assessable impact fee for the Prairie Vista Service area per service unit is $456.

For a development that requires a different size meter, a service unit equivalent is established at a multiplier based on its capacity with respect to the 5/8"x 3/4" meter. The maximum impact fee that could be assessed for other meter sizes is based on the value shown on Table 2.7, Service Unit Equivalency Table for Commonly Used Meters.

Table 2.7 Service Unit Equivalency Table for Commonly Used Meters

Meter Size*	Maximum Continuous Operating Capacity (GPM)**	Service Unit Equivalent	Maximum Assessable Fee per Service Area ($)			
			Long Prairie	Lakeside	Denton Creek	Prairie Vista
5/8"x 3/4" PD	10	1	2,862	2,428	586	456
3/4" PD	15	1.5	4,293	3,642	879	684
1" PD	25	2.5	7,155	6,070	1,465	1,140
1 1/2" PD	50	5	14,310	12,140	2,930	2,280
2" PD	80	8	22,896	19,424	4,688	3,648
2" Compound	80	8	22,896	19,424	4,688	3,648
2" Turbine	160	16	45,792	38,848	9,376	7,296
3" Compound	175	17.5	50,085	42,490	10,255	7,980
3" Turbine	350	35	100,170	84,980	20,510	15,960
4" Compound	300	30	85,860	72,840	17,580	13,680
4" Turbine	650	65	186,030	157,820	38,090	29,640
6" Compound	675	67.5	193,185	163,890	39,555	30,780
6" Turbine	1400	140	400,680	339,920	82,040	63,840
8" Compound	900	90	257,580	218,520	52,740	41,040
8" Turbine	2,400	240	686,880	582,720	140,640	109,440
10" Turbine	3,500	350	1,001,700	849,800	205,100	159,600

* PD = Positive Displacement Meter (typical residential meter)

** Operating capacities obtained from American Water Works Associate (AWWA) C700-15, C701-15, and C702-15. Turbine and Compound meter flows are based on Class II (in-line) meters.

Appendix A: Plan for Awarding Wastewater Impact Fee Credit

SUMMARY OF WASTEWATER IMPACT FEE DETERMINATION

Denton Creek

Recoverable Impact Fee CIP Costs	$	1,529,172	Per Kimley-Horn Impact Fee Update
Financing Costs		283,822	See Detail Below
Existing Fund Balance		-	Page 1 of Appendix B - Denton Creek
Interest Earnings		(13,437)	Page 4 of Appendix B - Denton Creek
Pre Credit Recoverable Cost for Impact Fee	$	1,799,557	Sum of Above
Credit for Utility Revenues		(407,626)	Page 7 of Appendix B - Denton Creek
Maximum Recoverable Cost for Impact Fee	**$**	**1,391,931**	

Recoverable Impact Fee CIP Costs:

Represents the portion of capital improvement costs that are eligible for funding through impact fees.

Financing Costs:

New Annual Debt Service	$	-	(Page 3 of Appendix B - Denton Creek)
Existing Annual Debt Service		1,121,438	(Page 3 of Appendix B - Denton Creek)
Principal Component		(837,616)	(Page 1 of Appendix B - Denton Creek)
Financing Costs	$	283,822	

Existing Fund Balance:

Represents impact fee revenue collected but not yet expended. Some projects that are included in the 2020 Impact Fee Update were also included in the previous Impact Fee Updates. To avoid charging twice for the same project, the impact fee revenues collected but yet to be expended (i.e. fund balance) are credited against the recoverable costs.

Interest Earnings:

Represents the interest earned on cash flows. Assumes a 0.438% annual interest rate based on the Town's current annual return as of 06/30/2020. The Impact Fee Statute states that interest earnings are funds of the impact fee account and are held to the same restrictions as impact fee revenues. Therefore in order to recognize that interest earnings are used to fund capital improvements, interest earnings are credited against the recoverable costs.

Pre Credit Recoverable Cost for Impact Fee:

Represents Recoverable Impact Fee CIP Costs plus Financing Costs less Interest Earnings.

Credit for Utility Revenues:

In 2001, the Impact Fee Statute was amended to include a credit for ad valorem and utility revenues generated by new service units during the ten-year timeframe that are used to fund impact fee eligible projects for which the new service units were charged an impact fee. The intent of this amendment is to avoid double-charging the new service units for impact fee capital improvements. The credit recognizes utility revenues used to fund the debt service of debt financed impact fee eligible projects and assumes that all non-debt funded impact fee eligible project costs will be funded solely through impact fee revenues or other revenue sources.

Maximum Recoverable Cost for Impact Fee:

Represents Pre Credit Recoverable Cost for Impact Fee less Credit for Utility Service Revenues. This is the maximum cost that can be recovered through impact fees.

SUMMARY OF WASTEWATER IMPACT FEE DETERMINATION

Lakeside

Recoverable Impact Fee CIP Costs	$	8,682,056	Per Kimley-Horn Impact Fee Update
Financing Costs		2,274,182	See Detail Below
Existing Fund Balance		(1,619,658)	Page 1 of Appendix B - Lakeside
Interest Earnings		(218,048)	Page 4 of Appendix B - Lakeside
Pre Credit Recoverable Cost for Impact Fee	$	9,118,532	Sum of Above
Credit for Utility Revenues		(1,560,118)	Page 7 of Appendix B - Lakeside
Maximum Recoverable Cost for Impact Fee	**$**	**7,558,414**	

Recoverable Impact Fee CIP Costs:

Represents the portion of capital improvement costs that are eligible for funding through impact fees.

Financing Costs:

New Annual Debt Service	$	2,774,714	(Page 3 of Appendix B - Lakeside)
Existing Annual Debt Service		5,472,147	(Page 3 of Appendix B - Lakeside)
Principal Component		(5,972,678)	(Page 1 of Appendix B - Lakeside)
Financing Costs	$	2,274,182	

Existing Fund Balance:

Represents impact fee revenue collected but not yet expended. Some projects that are included in the 2020 Impact Fee Update were also included in the previous Impact Fee Updates. To avoid charging twice for the same project, the impact fee revenues collected but yet to be expended (i.e. fund balance) are credited against the recoverable costs.

Interest Earnings:

Represents the interest earned on cash flows. Assumes a 0.438% annual interest rate based on the Town's current annual return as of 06/30/2020. The Impact Fee Statute states that interest earnings are funds of the impact fee account and are held to the same restrictions as impact fee revenues. Therefore in order to recognize that interest earnings are used to fund capital improvements, interest earnings are credited against the recoverable costs.

Pre Credit Recoverable Cost for Impact Fee:

Represents Recoverable Impact Fee CIP Costs plus Financing Costs less Interest Earnings.

Credit for Utility Revenues:

In 2001, the Impact Fee Statute was amended to include a credit for ad valorem and utility revenues generated by new service units during the ten-year timeframe that are used to fund impact fee eligible projects for which the new service units were charged an impact fee. The intent of this amendment is to avoid double-charging the new service units for impact fee capital improvements. The credit recognizes utility revenues used to fund the debt service of debt financed impact fee eligible projects and assumes that all non-debt funded impact fee eligible project costs will be funded solely through impact fee revenues or other revenue sources.

Maximum Recoverable Cost for Impact Fee:

Represents Pre Credit Recoverable Cost for Impact Fee less Credit for Utility Service Revenues. This is the maximum cost that can be recovered through impact fees.

SUMMARY OF WASTEWATER IMPACT FEE DETERMINATION

Long Prairie

Recoverable Impact Fee CIP Costs	$	6,601,303	Per Kimley-Horn Impact Fee Update
Financing Costs		1,443,740	See Detail Below
Existing Fund Balance		(3,828,736)	Page 1 of Appendix B - Long Prairie
Interest Earnings		(175,366)	Page 4 of Appendix B - Long Prairie
Pre Credit Recoverable Cost for Impact Fee	$	4,040,940	Sum of Above
Credit for Utility Revenues		(115,591)	Page 7 of Appendix B - Long Prairie
Maximum Recoverable Cost for Impact Fee	**$**	**3,925,349**	

Recoverable Impact Fee CIP Costs:

Represents the portion of capital improvement costs that are eligible for funding through impact fees.

Financing Costs:

New Annual Debt Service	$	218,979	(Page 3 of Appendix B - Long Prairie)
Existing Annual Debt Service		6,711,356	(Page 3 of Appendix B - Long Prairie)
Principal Component		(5,486,595)	(Page 1 of Appendix B - Long Prairie)
Financing Costs	$	1,443,740	

Existing Fund Balance:

Represents impact fee revenue collected but not yet expended. Some projects that are included in the 2020 Impact Fee Update were also included in the previous Impact Fee Updates. To avoid charging twice for the same project, the impact fee revenues collected but yet to be expended (i.e. fund balance) are credited against the recoverable costs.

Interest Earnings:

Represents the interest earned on cash flows. Assumes a 0.438% annual interest rate based on the Town's current annual return as of 06/30/2020. The Impact Fee Statute states that interest earnings are funds of the impact fee account and are held to the same restrictions as impact fee revenues. Therefore in order to recognize that interest earnings are used to fund capital improvements, interest earnings are credited against the recoverable costs.

Pre Credit Recoverable Cost for Impact Fee:

Represents Recoverable Impact Fee CIP Costs plus Financing Costs less Interest Earnings.

Credit for Utility Revenues:

In 2001, the Impact Fee Statute was amended to include a credit for ad valorem and utility revenues generated by new service units during the ten-year timeframe that are used to fund impact fee eligible projects for which the new service units were charged an impact fee. The intent of this amendment is to avoid double-charging the new service units for impact fee capital improvements. The credit recognizes utility revenues used to fund the debt service of debt financed impact fee eligible projects and assumes that all non-debt funded impact fee eligible project costs will be funded solely through impact fee revenues or other revenue sources.

Maximum Recoverable Cost for Impact Fee:

Represents Pre Credit Recoverable Cost for Impact Fee less Credit for Utility Service Revenues. This is the maximum cost that can be recovered through impact fees.

SUMMARY OF WASTEWATER IMPACT FEE DETERMINATION

Prairie Vista

Recoverable Impact Fee CIP Costs	$	955,041	Per Kimley-Horn Impact Fee Update
Financing Costs		173,955	See Detail Below
Existing Fund Balance		(16,560)	Page 1 of Appendix B - Prairie Vista
Interest Earnings		(9,834)	Page 4 of Appendix B - Prairie Vista
Pre Credit Recoverable Cost for Impact Fee	$	1,102,602	Sum of Above
Credit for Utility Revenues		(442,969)	Page 7 of Appendix B - Prairie Vista
Maximum Recoverable Cost for Impact Fee	**$**	**659,634**	

Recoverable Impact Fee CIP Costs:

Represents the portion of capital improvement costs that are eligible for funding through impact fees.

Financing Costs:

New Annual Debt Service	$	-	(Page 3 of Appendix B - Prairie Vista)
Existing Annual Debt Service		687,333	(Page 3 of Appendix B - Prairie Vista)
Principal Component		(513,378)	(Page 1 of Appendix B - Prairie Vista)
Financing Costs	$	173,955	

Existing Fund Balance:

Represents impact fee revenue collected but not yet expended. Some projects that are included in the 2020 Impact Fee Update were also included in the previous Impact Fee Updates. To avoid charging twice for the same project, the impact fee revenues collected but yet to be expended (i.e. fund balance) are credited against the recoverable costs.

Interest Earnings:

Represents the interest earned on cash flows. Assumes a 0.438% annual interest rate based on the Town's current annual return as of 06/30/2020. The Impact Fee Statute states that interest earnings are funds of the impact fee account and are held to the same restrictions as impact fee revenues. Therefore in order to recognize that interest earnings are used to fund capital improvements, interest earnings are credited against the recoverable costs.

Pre Credit Recoverable Cost for Impact Fee:

Represents Recoverable Impact Fee CIP Costs plus Financing Costs less Interest Earnings.

Credit for Utility Revenues:

In 2001, the Impact Fee Statute was amended to include a credit for ad valorem and utility revenues generated by new service units during the ten-year timeframe that are used to fund impact fee eligible projects for which the new service units were charged an impact fee. The intent of this amendment is to avoid double-charging the new service units for impact fee capital improvements. The credit recognizes utility revenues used to fund the debt service of debt financed impact fee eligible projects and assumes that all non-debt funded impact fee eligible project costs will be funded solely through impact fee revenues or other revenue sources.

Maximum Recoverable Cost for Impact Fee:

Represents Pre Credit Recoverable Cost for Impact Fee less Credit for Utility Service Revenues. This is the maximum cost that can be recovered through impact fees.

Appendix B: Impact Fee Calculation Assumptions

Town of Flower Mound 2020 Wastewater Impact Fee Update

Impact Fee Calculation Assumptions

Appendix B - Impact Fee Calculation Assumptions

Denton Creek

I. General Assumptions

Annual Interest Rate on Deposits [1]	0.438%
Annual Service Unit Growth [2]	237
Available Existing Fund Balance [3]	-

Portion of Projects Funded by Existing Debt [4]	$ 837,616
Non-debt Funded Project Cost [5]	691,556
Project Cost Funded Through New Debt [6]	-
Total Recoverable Project Cost [7]	$ 1,529,172

II. New Debt Issues Assumptions

Year	Principal [8]	Interest [9]	Term
1	$ -	4.00%	20
2	-	4.00%	20
3	-	4.00%	20
4	-	4.00%	20
5	-	4.00%	20
6	-	4.00%	20
7	-	4.00%	20
8	-	4.00%	20
9	-	4.00%	20
10	-	4.00%	20
Total	$ -		

III. Capital Expenditure Assumptions

Year	Annual Capital Expenditures [10]
1	$ 69,156
2	69,156
3	69,156
4	69,156
5	69,156
6	69,156
7	69,156
8	69,156
9	69,156
10	69,156
Total	$ 691,556

(1) Town's current earnings rate as of June 30, 2020
(2) Per Kimley-Horn Impact Fee Update, includes 231 of prepaid service units over the 10-year period
(3) Balances for this service area available as of July 31, 2020 less possible reimbursement for prepaid units
(4) Per discussions with Town staff and Town files
(5) Per discussions with Town staff and Town files
(6) Per discussions with Town staff and Town files
(7) Per Kimley-Horn Impact Fee Update
(8) Assumes no new debt issued for projects
(9) Estimated interest cost provided by Town's Financial Advisor
(10) Assumes new debt proceeds expended over a 2-year timeframe with Year 10 bond proceeds spent in one year; Non-debt funded capital expenditures made in equal annual amounts

Town of Flower Mound 2020 Wastewater Impact Fee Update

Debt Service and Expense Summary

Appendix B - Impact Fee Calculation Assumptions

Denton Creek

I. New Debt Service Detail

Year	Series 1	Series 2	Series 3	Series 4	Series 5	Series 6	Series 7	Series 8	Series 9	Series 10	Total Annual New Debt Service [1]
1	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-	-
11	-	-	-	-	-	-	-	-	-	-	-
12	-	-	-	-	-	-	-	-	-	-	-
13	-	-	-	-	-	-	-	-	-	-	-
14	-	-	-	-	-	-	-	-	-	-	-
15	-	-	-	-	-	-	-	-	-	-	-
16	-	-	-	-	-	-	-	-	-	-	-
17	-	-	-	-	-	-	-	-	-	-	-
18	-	-	-	-	-	-	-	-	-	-	-
19	-	-	-	-	-	-	-	-	-	-	-
20	-	-	-	-	-	-	-	-	-	-	-
21	-	-	-	-	-	-	-	-	-	-	-
22	-	-	-	-	-	-	-	-	-	-	-
23	-	-	-	-	-	-	-	-	-	-	-
24	-	-	-	-	-	-	-	-	-	-	-
25	-	-	-	-	-	-	-	-	-	-	-
26	-	-	-	-	-	-	-	-	-	-	-
27	-	-	-	-	-	-	-	-	-	-	-
28	-	-	-	-	-	-	-	-	-	-	-
29	-	-	-	-	-	-	-	-	-	-	$ -
	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Town of Flower Mound 2020 Wastewater Impact Fee Update

Debt Service and Expense Summary

Appendix B - Impact Fee Calculation Assumptions

Denton Creek

II. Summary of Annual Expenses

Year	New Annual Debt Service[1]	Annual Capital Expenditures[2]	Annual Bond Proceeds[2]	Existing Annual Debt Service[3]	Annual Credit[4]	Total Expense
1	$ -	$ 69,156	$ -	$ 91,538	$ (22,197)	138,497
2	-	69,156	-	94,132	(36,742)	126,546
3	-	69,156	-	72,027	(35,285)	105,898
4	-	69,156	-	72,072	(40,468)	100,760
5	-	69,156	-	72,087	(44,367)	96,875
6	-	69,156	-	68,340	(44,941)	92,554
7	-	69,156	-	67,508	(46,677)	89,987
8	-	69,156	-	66,432	(47,776)	87,812
9	-	69,156	-	60,931	(45,231)	84,856
10	-	69,156	-	57,671	(43,943)	82,883
11	-	-	-	57,645	-	57,645
12	-	-	-	56,278	-	56,278
13	-	-	-	54,098	-	54,098
14	-	-	-	50,137	-	50,137
15	-	-	-	44,666	-	44,666
16	-	-	-	36,024	-	36,024
17	-	-	-	31,109	-	31,109
18	-	-	-	25,785	-	25,785
19	-	-	-	20,342	-	20,342
20	-	-	-	17,832	-	17,832
21	-	-	-	4,785	-	4,785
22	-	-	-	-	-	-
23	-	-	-	-	-	-
24	-	-	-	-	-	-
25	-	-	-	-	-	-
26	-	-	-	-	-	-
27	-	-	-	-	-	-
28	-	-	-	-	-	-
29	-	-	-	-	-	-
	$ -	$ 691,556	$ -	$ 1,121,438	$ (407,626)	$ 1,405,368

(1) Appendix B - Denton Creek, Page 2; assumes no new debt issued for projects

(2) Appendix B - Denton Creek, Page 1

(3) Eligible Outstanding Debt Funded Projects Percent of Utility Self-Supported Debt Issuance times total outstanding utility self-supported annual debt service

(4) Appendix B - Denton Creek, Page 7

Town of Flower Mound 2020 Wastewater Impact Fee Update

Revenue Test

Appendix B - Impact Fee Calculation Assumptions

Denton Creek

Year	Impact Fee [1]	Service Units	Impact Fee Revenue [1]	Annual Expenses	Sub-Total	Accumulated Interest	Estimated Fund Balance
Initial							$ -
1	$ 587	237	$ 139,193	$ 138,497	$ 696	2	698
2	587	237	139,193	126,546	12,647	31	13,376
3	587	237	139,193	105,898	33,295	132	46,802
4	587	237	139,193	100,760	38,433	289	85,525
5	587	237	139,193	96,875	42,318	467	128,310
6	587	237	139,193	92,554	46,639	664	175,612
7	587	237	139,193	89,987	49,207	877	225,696
8	587	237	139,193	87,812	51,381	1,101	278,178
9	587	237	139,193	84,856	54,338	1,337	333,853
10	587	237	139,193	82,883	56,310	1,586	391,749
11	-	-	-	57,645	(57,645)	1,590	335,694
12	-	-	-	56,278	(56,278)	1,347	280,763
13	-	-	-	54,098	(54,098)	1,111	227,776
14	-	-	-	50,137	(50,137)	888	178,527
15	-	-	-	44,666	(44,666)	684	134,545
16	-	-	-	36,024	(36,024)	510	99,032
17	-	-	-	31,109	(31,109)	366	68,288
18	-	-	-	25,785	(25,785)	243	42,745
19	-	-	-	20,342	(20,342)	143	22,546
20	-	-	-	17,832	(17,832)	60	4,774
21	-	-	-	4,785	(4,785)	10	(0)
22	-	-	-	-	-	(0)	(0)
23	-	-	-	-	-	(0)	(0)
24	-	-	-	-	-	(0)	(0)
25	-	-	-	-	-	(0)	(0)
26	-	-	-	-	-	(0)	(0)
27	-	-	-	-	-	(0)	(0)
28	-	-	-	-	-	(0)	(0)
29	-	-	-	-	-	(0)	-
			1,391,931	1,405,368		13,437	

(1) Actual revenues could be closer to $1,250,000 due to prepaid service units.

Town of Flower Mound 2020 Wastewater Impact Fee Update

Impact Fee Calculation

Appendix B - Impact Fee Calculation Assumptions

Denton Creek

Year	Number of Years to End of Period	Future Value Escalation Interest Rate Factor	Future Value Escalation Recovery Fee Factor	Annual Service Units Actual	Annual Service Units Escalated	Annual Expense Actual	Annual Expense Escalated
Prev							
1	29	1.1326	1.0000	237	269	138,497	156,868
2	28	1.1277	1.0000	237	267	126,546	142,707
3	27	1.1228	1.0000	237	266	105,898	118,902
4	26	1.1179	1.0000	237	265	100,760	112,639
5	25	1.1130	1.0000	237	264	96,875	107,824
6	24	1.1082	1.0000	237	263	92,554	102,566
7	23	1.1033	1.0000	237	262	89,987	99,285
8	22	1.0985	1.0000	237	261	87,812	96,463
9	21	1.0937	1.0000	237	259	84,856	92,809
10	20	1.0890	1.0000	237	258	82,883	90,257
11	19	1.0842	1.0000	-	-	57,645	62,499
12	18	1.0795	1.0000	-	-	56,278	60,751
13	17	1.0748	1.0000	-	-	54,098	58,144
14	16	1.0701	1.0000	-	-	50,137	53,651
15	15	1.0654	1.0000	-	-	44,666	47,588
16	14	1.0608	1.0000	-	-	36,024	38,214
17	13	1.0562	1.0000	-	-	31,109	32,856
18	12	1.0515	1.0000	-	-	25,785	27,114
19	11	1.0470	1.0000	-	-	20,342	21,297
20	10	1.0424	1.0000	-	-	17,832	18,588
21	9	1.0378	1.0000	-	-	4,785	4,966
22	8	1.0333	1.0000	-	-	-	-
23	7	1.0288	1.0000	-	-	-	-
24	6	1.0243	1.0000	-	-	-	-
25	5	1.0199	1.0000	-	-	-	-
26	4	1.0154	1.0000	-	-	-	-
27	3	1.0110	1.0000	-	-	-	-
28	2	1.0066	1.0000	-	-	-	-
29	1	1.0022	1.0000	-	-	-	-
					2,635	1,405,368	1,545,989

Total Escalated Expense for Entire Period	$	1,545,989
Less Future Value of Initial Fund Balance		-
Net Escalated Expense for Entire Period	$	1,545,989
Total Escalated Service Units		2,635
Impact Fee for Denton Creek	**$**	**587**

Town of Flower Mound 2020 Wastewater Impact Fee Update

Impact Fee Calculation Assumptions

Impact Fee Project Funding

Denton Creek

Impact Fee Project Name[1]	Impact Fee Project No.[1]	Total Project Cost [1]	Percent Recoverable [1]	Impact Fee Recoverable Cost [2]	Debt Funded [2] Existing	Debt Funded [2] Proposed	Non-Debt Funded [2]	Impact Fee Recoverable Cost
Wastewater Capital Improvements								
TRA System Contract	1	$ 5,493,231	27%	$ 1,483,172	$ 837,616	$ -	$ 645,556	$ 1,483,172
2020 Wastewater Master Plan Update	2	$ 46,000	100%	$ 46,000	-	-	46,000	46,000
Total		**$ 5,539,231**		**$ 1,529,172**	**$ 837,616**	**$ -**	**$ 691,556**	**$ 1,529,172**

(1) Per Kimley-Horn Impact Fee Update

(2) Based on Contributions by Project and Planned Future Debt Financing

Town of Flower Mound 2020 Wastewater Impact Fee Update

Credit Determination

Appendix B - Impact Fee Calculation Assumptions

Denton Creek

2020 Service Units [1]	741	
Ten Year Growth in Service Units [1]	2,372	
	10	years
Annual Growth in Service Units	237	

		1	2	3	4	5	6	7	8	9	10	Total
Total Debt Service Eligible for Impact Fees		$ 91,538	$ 94,132	$ 72,027	$ 72,072	$ 72,087	$ 68,340	$ 67,508	$ 66,432	$ 60,931	$ 57,671	$ 722,738
2020 Service Units Plus Denton Creek Growth		978	1,215	1,453	1,690	1,927	2,164	2,401	2,639	2,876	3,113	
Total Debt Service Eligible for Impact Fees per Service Unit		$ 93.58	$ 77.45	$ 49.59	$ 42.65	$ 37.41	$ 31.58	$ 28.11	$ 25.18	$ 21.19	$ 18.53	
Annual Service Unit Growth in Denton Creek (Cumulative)		237	474	712	949	1,186	1,423	1,660	1,898	2,135	2,372	
Annual Wastewater Utility Revenue Generated by Additional Service Units for Debt Service Eligible for Impact Fees		$ 22,197	$ 36,742	$ 35,285	$ 40,468	$ 44,367	$ 44,941	$ 46,677	$ 47,776	$ 45,231	$ 43,943	$ 407,626
Credit Amount	**$ 407,626**											

(1) Per Kimley-Horn Impact Fee Update, which includes 231 of prepaid service units per Town staff

Town of Flower Mound 2020 Wastewater Impact Fee Update

Impact Fee Calculation Assumptions

Appendix B - Impact Fee Calculation Assumptions

Lakeside

I. General Assumptions

Annual Interest Rate on Deposits [1]	0.438%
Annual Service Unit Growth [2]	311
Available Existing Fund Balance [3]	1,619,658

Portion of Projects Funded by Existing Debt [4]	$ 4,087,215
Non-debt Funded Project Cost [5]	2,709,378
Project Cost Funded Through New Debt [6]	1,885,463
Total Recoverable Project Cost [7]	$ 8,682,056

II. New Debt Issues Assumptions

Year	Principal [8]	Interest [9]	Term
1	$ -	4.00%	20
2	-	4.00%	20
3	-	4.00%	20
4	986,538	4.00%	20
5	-	4.00%	20
6	179,785	4.00%	20
7	179,785	4.00%	20
8	179,785	4.00%	20
9	179,785	4.00%	20
10	179,785	4.00%	20
Total	$ 1,885,463		

III. Capital Expenditure Assumptions

Year	Annual Capital Expenditures [10]
1	$ 270,938
2	270,938
3	270,938
4	764,207
5	764,207
6	360,830
7	450,723
8	450,723
9	450,723
10	540,615
Total	$ 4,594,841

(1) Town's current earnings rate as of June 30, 2020
(2) Per Kimley-Horn Impact Fee Update
(3) Balances for this service area available as of July 31, 2020
(4) Per discussions with Town staff and Town files
(5) Per discussions with Town staff and Town files
(6) Per discussions with Town staff and Town files
(7) Per Kimley-Horn Impact Fee Update
(8) Assumes new debt issued in equal annual amounts, unless specified in Town CIP
(9) Estimated interest cost provided by Town's Financial Advisor
(10) Assumes new debt proceeds expended over a 2-year timeframe with Year 10 bond proceeds spent in one year; Non-debt funded capital expenditures made in equal annual amounts

Town of Flower Mound 2020 Wastewater Impact Fee Update

Debt Service and Expense Summary

Appendix B - Impact Fee Calculation Assumptions

Lakeside

I. New Debt Service Detail

Year	Series 1	Series 2	Series 3	Series 4	Series 5	Series 6	Series 7	Series 8	Series 9	Series 10	Total Annual New Debt Service
1	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-	-	-	-
4	-	-	-	72,591	-	-	-	-	-	-	72,591
5	-	-	-	72,591	-	-	-	-	-	-	72,591
6	-	-	-	72,591	-	13,229	-	-	-	-	85,820
7	-	-	-	72,591	-	13,229	13,229	-	-	-	99,049
8	-	-	-	72,591	-	13,229	13,229	13,229	-	-	112,278
9	-	-	-	72,591	-	13,229	13,229	13,229	13,229	-	125,507
10	-	-	-	72,591	-	13,229	13,229	13,229	13,229	13,229	138,736
11	-	-	-	72,591	-	13,229	13,229	13,229	13,229	13,229	138,736
12	-	-	-	72,591	-	13,229	13,229	13,229	13,229	13,229	138,736
13	-	-	-	72,591	-	13,229	13,229	13,229	13,229	13,229	138,736
14	-	-	-	72,591	-	13,229	13,229	13,229	13,229	13,229	138,736
15	-	-	-	72,591	-	13,229	13,229	13,229	13,229	13,229	138,736
16	-	-	-	72,591	-	13,229	13,229	13,229	13,229	13,229	138,736
17	-	-	-	72,591	-	13,229	13,229	13,229	13,229	13,229	138,736
18	-	-	-	72,591	-	13,229	13,229	13,229	13,229	13,229	138,736
19	-	-	-	72,591	-	13,229	13,229	13,229	13,229	13,229	138,736
20	-	-	-	72,591	-	13,229	13,229	13,229	13,229	13,229	138,736
21	-	-	-	72,591	-	13,229	13,229	13,229	13,229	13,229	138,736
22	-	-	-	72,591	-	13,229	13,229	13,229	13,229	13,229	138,736
23	-	-	-	72,591	-	13,229	13,229	13,229	13,229	13,229	138,736
24	-	-	-	-	-	13,229	13,229	13,229	13,229	13,229	66,145
25	-	-	-	-	-	13,229	13,229	13,229	13,229	13,229	66,145
26	-	-	-	-	-	-	13,229	13,229	13,229	13,229	52,916
27	-	-	-	-	-	-	-	13,229	13,229	13,229	39,687
28	-	-	-	-	-	-	-	-	13,229	13,229	26,458
29	-	-	-	-	-	-	-	-	-	13,229	$ 13,229
	$ -	$ -	$ -	$ 1,451,823	$ -	$ 264,578	$ 264,578	$ 264,578	$ 264,578	$ 264,578	$ 2,774,714

Town of Flower Mound 2020 Wastewater Impact Fee Update

Debt Service and Expense Summary

Appendix B - Impact Fee Calculation Assumptions

Lakeside

II. Summary of Annual Expenses

Year	New Annual Debt Service[1]	Annual Capital Expenditures[2]	Annual Bond Proceeds[2]	Existing Annual Debt Service[3]	Annual Credit[4]	Total Expense
1	$ -	$ 270,938	$ -	$ 446,666	$ (47,857)	669,747
2	-	270,938	-	459,326	(88,902)	641,362
3	-	270,938	-	351,463	(93,034)	529,366
4	72,591	764,207	(986,538)	351,681	(137,602)	64,340
5	72,591	764,207	-	351,752	(159,128)	1,029,422
6	85,820	360,830	(179,785)	333,469	(175,516)	424,819
7	99,049	450,723	(179,785)	329,412	(195,601)	503,797
8	112,278	450,723	(179,785)	324,162	(213,766)	493,612
9	125,507	450,723	(179,785)	297,319	(219,544)	474,220
10	138,736	540,615	(179,785)	281,408	(229,169)	551,805
11	138,736	-	-	281,281	-	420,017
12	138,736	-	-	274,612	-	413,348
13	138,736	-	-	263,977	-	402,712
14	138,736	-	-	244,646	-	383,382
15	138,736	-	-	217,951	-	356,687
16	138,736	-	-	175,782	-	314,518
17	138,736	-	-	151,801	-	290,536
18	138,736	-	-	125,821	-	264,557
19	138,736	-	-	99,260	-	237,995
20	138,736	-	-	87,011	-	225,746
21	138,736	-	-	23,347	-	162,083
22	138,736	-	-	-	-	138,736
23	138,736	-	-	-	-	138,736
24	66,145	-	-	-	-	66,145
25	66,145	-	-	-	-	66,145
26	52,916	-	-	-	-	52,916
27	39,687	-	-	-	-	39,687
28	26,458	-	-	-	-	26,458
29	13,229	-	-	-	-	13,229
	$ 2,774,714	$ 4,594,841	$ (1,885,463)	$ 5,472,147	$ (1,560,118)	$ 9,396,120

(1) Appendix B - Lakeside, Page 2

(2) Appendix B - Lakeside, Page 1

(3) Eligible Outstanding Debt Funded Projects Percent of Utility Self-Supported Debt Issuance times total outstanding utility self-supported annual debt service

(4) Appendix B - Lakeside, Page 7

Town of Flower Mound 2020 Wastewater Impact Fee Update

Revenue Test

Appendix B - Impact Fee Calculation Assumptions

Lakeside

Year	Impact Fee	Service Units	Impact Fee Revenue	Annual Expenses	Sub-Total	Accumulated Interest	Estimated Fund Balance
Initial							$ 1,619,658
1	$ 2,428	311	$ 755,841	$ 669,747	$ 86,095	7,283	1,713,035
2	2,428	311	755,841	641,362	114,479	7,754	1,835,268
3	2,428	311	755,841	529,366	226,475	8,534	2,070,278
4	2,428	311	755,841	64,340	691,501	10,582	2,772,361
5	2,428	311	755,841	1,029,422	(273,580)	11,544	2,510,325
6	2,428	311	755,841	424,819	331,023	11,720	2,853,068
7	2,428	311	755,841	503,797	252,044	13,048	3,118,160
8	2,428	311	755,841	493,612	262,230	14,232	3,394,622
9	2,428	311	755,841	474,220	281,621	15,485	3,691,729
10	2,428	311	755,841	551,805	204,036	16,617	3,912,381
11	-	-	-	420,017	(420,017)	16,216	3,508,580
12	-	-	-	413,348	(413,348)	14,462	3,109,695
13	-	-	-	402,712	(402,712)	12,739	2,719,721
14	-	-	-	383,382	(383,382)	11,073	2,347,412
15	-	-	-	356,687	(356,687)	9,501	2,000,226
16	-	-	-	314,518	(314,518)	8,072	1,693,780
17	-	-	-	290,536	(290,536)	6,782	1,410,027
18	-	-	-	264,557	(264,557)	5,597	1,151,066
19	-	-	-	237,995	(237,995)	4,520	917,591
20	-	-	-	225,746	(225,746)	3,525	695,370
21	-	-	-	162,083	(162,083)	2,691	535,978
22	-	-	-	138,736	(138,736)	2,044	399,286
23	-	-	-	138,736	(138,736)	1,445	261,995
24	-	-	-	66,145	(66,145)	1,003	196,853
25	-	-	-	66,145	(66,145)	717	131,426
26	-	-	-	52,916	(52,916)	460	78,970
27	-	-	-	39,687	(39,687)	259	39,543
28	-	-	-	26,458	(26,458)	115	13,200
29	-	-	-	13,229	(13,229)	29	-
			7,558,414	9,396,120		218,048	

Town of Flower Mound 2020 Wastewater Impact Fee Update

Impact Fee Calculation

Appendix B - Impact Fee Calculation Assumptions

Lakeside

Year	Number of Years to End of Period	Future Value Interest Rate Factor	Escalation Recovery Fee Factor	Annual Service Units Actual	Annual Service Units Escalated	Annual Expense Actual	Annual Expense Escalated
Prev							
1	29	1.1326	1.0000	311	353	669,747	758,589
2	28	1.1277	1.0000	311	351	641,362	723,271
3	27	1.1228	1.0000	311	350	529,366	594,369
4	26	1.1179	1.0000	311	348	64,340	71,926
5	25	1.1130	1.0000	311	346	1,029,422	1,145,768
6	24	1.1082	1.0000	311	345	424,819	470,770
7	23	1.1033	1.0000	311	343	503,797	555,857
8	22	1.0985	1.0000	311	342	493,612	542,244
9	21	1.0937	1.0000	311	340	474,220	518,670
10	20	1.0890	1.0000	311	339	551,805	600,896
11	19	1.0842	1.0000	-	-	420,017	455,389
12	18	1.0795	1.0000	-	-	413,348	446,203
13	17	1.0748	1.0000	-	-	402,712	432,827
14	16	1.0701	1.0000	-	-	383,382	410,254
15	15	1.0654	1.0000	-	-	356,687	380,023
16	14	1.0608	1.0000	-	-	314,518	333,634
17	13	1.0562	1.0000	-	-	290,536	306,851
18	12	1.0515	1.0000	-	-	264,557	278,194
19	11	1.0470	1.0000	-	-	237,995	249,172
20	10	1.0424	1.0000	-	-	225,746	235,317
21	9	1.0378	1.0000	-	-	162,083	168,218
22	8	1.0333	1.0000	-	-	138,736	143,359
23	7	1.0288	1.0000	-	-	138,736	142,734
24	6	1.0243	1.0000	-	-	66,145	67,754
25	5	1.0199	1.0000	-	-	66,145	67,458
26	4	1.0154	1.0000	-	-	52,916	53,731
27	3	1.0110	1.0000	-	-	39,687	40,123
28	2	1.0066	1.0000	-	-	26,458	26,632
29	1	1.0022	1.0000	-	-	13,229	13,258
					3,457	9,396,120	10,233,487

Total Escalated Expense for Entire Period	$	10,233,487
Less Future Value of Initial Fund Balance		1,838,514
Net Escalated Expense for Entire Period	$	8,394,972
Total Escalated Service Units		3,457
Impact Fee for Lakeside	**$**	**2,428**

Town of Flower Mound 2020 Wastewater Impact Fee Update

Impact Fee Project Funding

Appendix B - Impact Fee Calculation Assumptions

Lakeside

Impact Fee Project Name[1]	Impact Fee Project No.[1]	Total Project Cost [1]	Percent Recoverable [1]	Impact Fee Recoverable Cost [1]	Debt Funded [2] Existing	Debt Funded [2] Proposed	Non-Debt Funded [2]	Impact Fee Recoverable Cost
Wastewater Capital Improvements								
Lakeside Lift Station and Force Main	1	$ 2,499,099	75%	$ 1,874,324	$ 750,000	$ -	$ 1,124,324	$ 1,874,324
Southside Force Main Extension	2	2,020,000	75%	1,515,000	-	750,000	765,000	1,515,000
Southside Pump Upgrade	3	530,000	75%	397,500	-	236,538	160,962	397,500
Southside Gravity Main Improvements	4	1,570,000	77%	1,208,900	-	898,926	309,974	1,208,900
2020 Wastewater Master Plan and Impact Fee Updates	5	46,000	100%	46,000	-	-	46,000	46,000
2001 Wastewater Treatment Plant Improvements	6	19,191,263	19%	3,575,332	3,337,215	-	238,117	3,575,332
2020 Wastewater Master Plan Update	7	65,000	100%	65,000	-	-	65,000	65,000
Total		**$ 25,921,362**		**$ 8,682,056**	**$ 4,087,215**	**$ 1,885,463**	**$ 2,709,378**	**$ 8,682,056**

(1) Per Kimley-Horn Impact Fee Update

(2) Based on Contributions by Project and Planned Future Debt Financing

Town of Flower Mound 2020 Wastewater Impact Fee Update

Credit Determination

Appendix B - Impact Fee Calculation Assumptions

Lakeside

2020 Service Units [1]	2,594	
Ten Year Growth in Service Units [1]	3,113	
	10	years
Annual Growth in Service Units	311	

		1	2	3	4	5	6	7	8	9	10	Total
Total Debt Service Eligible for Impact Fees		$ 446,666	$ 459,326	$ 351,463	$ 424,273	$ 424,343	$ 419,289	$ 428,461	$ 436,440	$ 422,826	$ 420,144	$ 4,233,230
2020 Service Units Plus Lakeside Growth		2,905	3,217	3,528	3,839	4,150	4,462	4,773	5,084	5,396	5,707	
Total Debt Service Eligible for Impact Fees per Service Unit		$ 153.74	$ 142.80	$ 99.63	$ 110.51	$ 102.24	$ 93.98	$ 89.77	$ 85.84	$ 78.37	$ 73.62	
Annual Service Unit Growth in Lakeside (Cumulative)		311	623	934	1,245	1,556	1,868	2,179	2,490	2,802	3,113	
Annual Wastewater Utility Revenue Generated by Additional Service Units for Debt Service Eligible for Impact Fees		$ 47,857	$ 88,902	$ 93,034	$ 137,602	$ 159,128	$ 175,516	$ 195,601	$ 213,766	$ 219,544	$ 229,169	$ 1,560,118
Credit Amount	**$ 1,560,118**											

(1) Per Kimley-Horn Impact Fee Update

Town of Flower Mound 2020 Wastewater Impact Fee Update

Impact Fee Calculation Assumptions

Appendix B - Impact Fee Calculation Assumptions

Long Prairie

I. General Assumptions

Annual Interest Rate on Deposits [1]	0.438%
Annual Service Unit Growth [2]	137
Available Existing Fund Balance [3]	3,828,736
Portion of Projects Funded by Existing Debt [4]	$ 5,012,795
Non-debt Funded Project Cost [5]	1,114,708
Project Cost Funded Through New Debt [6]	473,800
Total Recoverable Project Cost [7]	$ 6,601,303

II. New Debt Issues Assumptions

Year	Principal [8]	Interest [9]	Term
1	$ -	4.00%	20
2	-	4.00%	20
3	148,800	4.00%	20
4	-	4.00%	20
5	-	4.00%	20
6	-	4.00%	20
7	-	4.00%	20
8	-	4.00%	20
9	-	4.00%	20
10	-	4.00%	20
Total	$ 148,800		

III. Capital Expenditure Assumptions

Year	Annual Capital Expenditures [10]
1	$ 111,471
2	111,471
3	185,871
4	185,871
5	111,471
6	111,471
7	111,471
8	111,471
9	111,471
10	111,471
Total	$ 1,263,508

(1) Town's current earnings rate as of June 30, 2020
(2) Per Kimley-Horn Impact Fee Update
(3) Balances for this service area available as of July 31, 2020
(4) Per discussions with Town staff and Town files
(5) Per discussions with Town staff and Town files
(6) Per discussions with Town staff and Town files
(7) Per Kimley-Horn Impact Fee Update
(8) Assumes new debt issued in equal annual amounts unless specified in Town CIP
(9) Estimated interest cost provided by Town's Financial Advisor
(10) Assumes new debt proceeds expended over a 2-year timeframe with Year 10 bond proceeds spent in one year; Non-debt funded capital expenditures made in equal annual amounts

Town of Flower Mound 2020 Wastewater Impact Fee Update

Debt Service and Expense Summary

Appendix B - Impact Fee Calculation Assumptions

Long Prairie

I. New Debt Service Detail

Year	Series 1	Series 2	Series 3	Series 4	Series 5	Series 6	Series 7	Series 8	Series 9	Series 10	Total Annual New Debt Service
1	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2	-	-	-	-	-	-	-	-	-	-	-
3	-	-	10,949	-	-	-	-	-	-	-	10,949
4	-	-	10,949	-	-	-	-	-	-	-	10,949
5	-	-	10,949	-	-	-	-	-	-	-	10,949
6	-	-	10,949	-	-	-	-	-	-	-	10,949
7	-	-	10,949	-	-	-	-	-	-	-	10,949
8	-	-	10,949	-	-	-	-	-	-	-	10,949
9	-	-	10,949	-	-	-	-	-	-	-	10,949
10	-	-	10,949	-	-	-	-	-	-	-	10,949
11	-	-	10,949	-	-	-	-	-	-	-	10,949
12	-	-	10,949	-	-	-	-	-	-	-	10,949
13	-	-	10,949	-	-	-	-	-	-	-	10,949
14	-	-	10,949	-	-	-	-	-	-	-	10,949
15	-	-	10,949	-	-	-	-	-	-	-	10,949
16	-	-	10,949	-	-	-	-	-	-	-	10,949
17	-	-	10,949	-	-	-	-	-	-	-	10,949
18	-	-	10,949	-	-	-	-	-	-	-	10,949
19	-	-	10,949	-	-	-	-	-	-	-	10,949
20	-	-	10,949	-	-	-	-	-	-	-	10,949
21	-	-	10,949	-	-	-	-	-	-	-	10,949
22	-	-	10,949	-	-	-	-	-	-	-	10,949
23	-	-	-	-	-	-	-	-	-	-	-
24	-	-	-	-	-	-	-	-	-	-	-
25	-	-	-	-	-	-	-	-	-	-	-
26	-	-	-	-	-	-	-	-	-	-	-
27	-	-	-	-	-	-	-	-	-	-	-
28	-	-	-	-	-	-	-	-	-	-	-
29	-	-	-	-	-	-	-	-	-	-	$ -
	$ -	$ -	$ 218,979	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 218,979

Town of Flower Mound 2020 Wastewater Impact Fee Update

Debt Service and Expense Summary

Appendix B - Impact Fee Calculation Assumptions

Long Prairie

II. Summary of Annual Expenses

Year	New Annual Debt Service[1]	Annual Capital Expenditures[2]	Annual Bond Proceeds[2]	Existing Annual Debt Service[3]	Annual Credit[4]	Total Expense
1	$ -	$ 111,471	$ -	$ 547,817	$ (2,884)	656,403
2	-	111,471	-	563,344	(5,901)	668,914
3	10,949	185,871	(148,800)	431,054	(6,909)	472,165
4	10,949	185,871	-	431,322	(9,169)	618,973
5	10,949	111,471	-	431,409	(11,405)	542,424
6	10,949	111,471	-	408,986	(12,925)	518,480
7	10,949	111,471	-	404,009	(14,825)	511,604
8	10,949	111,471	-	397,571	(16,595)	503,395
9	10,949	111,471	-	364,649	(17,078)	469,991
10	10,949	111,471	-	345,136	(17,900)	449,656
11	10,949	-	-	344,980	-	355,929
12	10,949	-	-	336,800	-	347,749
13	10,949	-	-	323,756	-	334,705
14	10,949	-	-	300,048	-	310,997
15	10,949	-	-	267,308	-	278,257
16	10,949	-	-	215,589	-	226,538
17	10,949	-	-	186,177	-	197,126
18	10,949	-	-	154,314	-	165,263
19	10,949	-	-	121,738	-	132,687
20	10,949	-	-	106,715	-	117,664
21	10,949	-	-	28,634	-	39,583
22	10,949	-	-	-	-	10,949
23	-	-	-	-	-	-
24	-	-	-	-	-	-
25	-	-	-	-	-	-
26	-	-	-	-	-	-
27	-	-	-	-	-	-
28	-	-	-	-	-	-
29	-	-	-	-	-	-
	$ 218,979	$ 1,263,508	$ (148,800)	$ 6,711,356	$ (115,591)	$ 7,929,452

(1) Appendix B - Long Prairie, Page 2

(2) Appendix B - Long Prairie, Page 1

(3) Eligible Outstanding Debt Funded Projects Percent of Utility Self-Supported Debt Issuance times total outstanding utility self-supported annual debt service

(4) Appendix B - Long Prairie, Page 7

Town of Flower Mound 2020 Wastewater Impact Fee Update

Revenue Test

Appendix B - Impact Fee Calculation Assumptions

Long Prairie

Year	Impact Fee	Service Units	Impact Fee Revenue	Annual Expenses	Sub-Total	Accumulated Interest	Estimated Fund Balance
Initial							$ 3,828,736
1	$ 2,863	137	$ 392,535	$ 656,403	$ (263,868)	16,192	3,581,060
2	2,863	137	392,535	668,914	(276,379)	15,080	3,319,761
3	2,863	137	392,535	472,165	(79,630)	14,366	3,254,497
4	2,863	137	392,535	618,973	(226,438)	13,759	3,041,818
5	2,863	137	392,535	542,424	(149,889)	12,995	2,904,924
6	2,863	137	392,535	518,480	(125,945)	12,448	2,791,426
7	2,863	137	392,535	511,604	(119,069)	11,966	2,684,323
8	2,863	137	392,535	503,395	(110,860)	11,515	2,584,977
9	2,863	137	392,535	469,991	(77,456)	11,153	2,518,673
10	2,863	137	392,535	449,656	(57,121)	10,907	2,472,459
11	-	-	-	355,929	(355,929)	10,050	2,126,580
12	-	-	-	347,749	(347,749)	8,553	1,787,385
13	-	-	-	334,705	(334,705)	7,096	1,459,775
14	-	-	-	310,997	(310,997)	5,713	1,154,491
15	-	-	-	278,257	(278,257)	4,447	880,681
16	-	-	-	226,538	(226,538)	3,361	657,504
17	-	-	-	197,126	(197,126)	2,448	462,826
18	-	-	-	165,263	(165,263)	1,665	299,229
19	-	-	-	132,687	(132,687)	1,020	167,562
20	-	-	-	117,664	(117,664)	476	50,374
21	-	-	-	39,583	(39,583)	134	10,925
22	-	-	-	10,949	(10,949)	24	0
23	-	-	-	-	-	0	0
24	-	-	-	-	-	0	0
25	-	-	-	-	-	0	0
26	-	-	-	-	-	0	0
27	-	-	-	-	-	0	0
28	-	-	-	-	-	0	0
29	-	-	-	-	-	0	-
			3,925,349	7,929,452		175,366	

Town of Flower Mound 2020 Wastewater Impact Fee Update

Impact Fee Calculation

Appendix B - Impact Fee Calculation Assumptions

Long Prairie

Year	Number of Years to End of Period	Future Value Escalation Interest Rate Factor	Recovery Fee Factor	Annual Service Units Actual	Annual Service Units Escalated	Annual Expense Actual	Annual Expense Escalated
Prev							
1	29	1.1326	1.0000	137	155	656,403	743,475
2	28	1.1277	1.0000	137	155	668,914	754,341
3	27	1.1228	1.0000	137	154	472,165	530,143
4	26	1.1179	1.0000	137	153	618,973	691,947
5	25	1.1130	1.0000	137	153	542,424	603,730
6	24	1.1082	1.0000	137	152	518,480	574,563
7	23	1.1033	1.0000	137	151	511,604	564,471
8	22	1.0985	1.0000	137	151	503,395	552,991
9	21	1.0937	1.0000	137	150	469,991	514,044
10	20	1.0890	1.0000	137	149	449,656	489,658
11	19	1.0842	1.0000	-	-	355,929	385,903
12	18	1.0795	1.0000	-	-	347,749	375,390
13	17	1.0748	1.0000	-	-	334,705	359,734
14	16	1.0701	1.0000	-	-	310,997	332,795
15	15	1.0654	1.0000	-	-	278,257	296,462
16	14	1.0608	1.0000	-	-	226,538	240,307
17	13	1.0562	1.0000	-	-	197,126	208,195
18	12	1.0515	1.0000	-	-	165,263	173,782
19	11	1.0470	1.0000	-	-	132,687	138,918
20	10	1.0424	1.0000	-	-	117,664	122,652
21	9	1.0378	1.0000	-	-	39,583	41,082
22	8	1.0333	1.0000	-	-	10,949	11,314
23	7	1.0288	1.0000	-	-	-	-
24	6	1.0243	1.0000	-	-	-	-
25	5	1.0199	1.0000	-	-	-	-
26	4	1.0154	1.0000	-	-	-	-
27	3	1.0110	1.0000	-	-	-	-
28	2	1.0066	1.0000	-	-	-	-
29	1	1.0022	1.0000	-	-	-	-
					1,523	7,929,452	8,705,897

Total Escalated Expense for Entire Period	$	8,705,897
Less Future Value of Initial Fund Balance		4,346,094
Net Escalated Expense for Entire Period	$	4,359,803
Total Escalated Service Units		1,523
Impact Fee for Long Prairie	**$**	**2,863**

Town of Flower Mound 2020 Wastewater Impact Fee Update

Impact Fee Project Funding

Appendix B - Impact Fee Calculation Assumptions

Long Prairie

Impact Fee Project Name[1]	Impact Fee Project No.[1]	Total Project Cost [1]	Percent Recoverable [1]	Impact Fee Recoverable Cost [1]	Debt Funded [2] Existing	Debt Funded [2] Proposed	Non-Debt Funded [2]	Impact Fee Recoverable Cost
Wastewater Capital Improvements								
Bakers Branch Collector Phase I (Gerault to Lower Timber Interceptor)	1	$ 607,181	19%	$ 115,364	$ 115,364	$ -	$ -	$ 115,364
Bakers Branch Wastewater Collector Phase II (Lexington Ave to Gerault Rd)	2	1,351,217	23%	310,780	251,984	-	58,796	310,780
Oak Street Lift Station Ph 3 and Force Main	3	5,833,654	29%	1,691,760	1,671,460	-	20,300	1,691,760
Oak Street Lift Station and Force Main Phase IV	4	3,400,000	10%	340,000	-	325,000	15,000	340,000
Upper Timber Creek Interceptor Phase I (FM 2499 to Morriss Rd and Buckthorn Ct to FM 1171)	5	1,525,872	26%	396,727	215,767	-	180,960	396,727
Upper Timber Creek Interceptor Phase III (FM 1171 to Hidden Forest Drive)	6	2,448,208	37%	905,837	766,216	-	139,622	905,837
Upper Timber Interceptor (College Parkway to Pecan Drive)	7	480,000	31%	148,800	-	148,800	-	148,800
Wellington Interceptor Improvements (Sections I and II)	8	1,345,254	50%	672,627	492,677	-	179,950	672,627
Riverwalk Collector (Morris Road to Windsor Drive)	9	530,000	57%	302,100	-	-	302,100	302,100
2020 Wastewater Master Plan and Impact Fee Updates	10	46,000	100%	46,000	-	-	46,000	46,000
2001 Wastewater Treatment Plant Improvements	11	19,191,263	8%	1,606,309	1,499,329	-	106,980	1,606,309
2020 Wastewater Master Plan Update	12	65,000	100%	65,000	-	-	65,000	65,000
Total		**$ 36,823,649**		**$ 6,601,303**	**$ 5,012,795**	**$ 473,800**	**$ 1,114,708**	**$ 6,601,303**

(1) Per Kimley-Horn Impact Fee Update

(2) Based on Contributions by Project and Planned Future Debt Financing

Town of Flower Mound 2020 Wastewater Impact Fee Update

Credit Determination

Appendix B - Impact Fee Calculation Assumptions

Long Prairie

2020 Service Units [1]	25,903	
Ten Year Growth in Service Units [1]	1,371	
	10	years
Annual Growth in Service Units	137	

	1	2	3	4	5	6	7	8	9	10	Total
Total Debt Service Eligible for Impact Fees	$ 547,817	$ 563,344	$ 442,003	$ 442,271	$ 442,358	$ 419,935	$ 414,958	$ 408,520	$ 375,598	$ 356,084	$ 4,412,888
2020 Service Units Plus Long Prairie Growth	26,040	26,177	26,314	26,451	26,589	26,726	26,863	27,000	27,137	27,274	
Total Debt Service Eligible for Impact Fees per Service Unit	$ 21.04	$ 21.52	$ 16.80	$ 16.72	$ 16.64	$ 15.71	$ 15.45	$ 15.13	$ 13.84	$ 13.06	
Annual Service Unit Growth in Long Prairie (Cumulative)	137	274	411	548	686	823	960	1,097	1,234	1,371	
Annual Wastewater Utility Revenue Generated by Additional Service Units for Debt Service Eligible for Impact Fees	$ 2,884	$ 5,901	$ 6,909	$ 9,169	$ 11,405	$ 12,925	$ 14,825	$ 16,595	$ 17,078	$ 17,900	$ 115,591

Credit Amount **$ 115,591**

(1) Per Kimley-Horn Impact Fee Update

Town of Flower Mound 2020 Wastewater Impact Fee Update

Impact Fee Calculation Assumptions

Appendix B - Impact Fee Calculation Assumptions

Prairie Vista

I. General Assumptions

Annual Interest Rate on Deposits [1]	0.438%
Annual Service Unit Growth [2]	145
Available Existing Fund Balance [3]	16,560

Portion of Projects Funded by Existing Debt [4]	$ 513,378
Non-debt Funded Project Cost [5]	441,663
Project Cost Funded Through New Debt [6]	-
Total Recoverable Project Cost [7]	$ 955,041

II. New Debt Issues Assumptions

Year	Principal [8]	Interest [9]	Term
1	$ -	4.00%	20
2	-	4.00%	20
3	-	4.00%	20
4	-	4.00%	20
5	-	4.00%	20
6	-	4.00%	20
7	-	4.00%	20
8	-	4.00%	20
9	-	4.00%	20
10	-	4.00%	20
Total	$ -		

III. Capital Expenditure Assumptions

Year	Annual Capital Expenditures [10]
1	$ 44,166
2	44,166
3	44,166
4	44,166
5	44,166
6	44,166
7	44,166
8	44,166
9	44,166
10	44,166
Total	$ 441,663

(1) Town's current earnings rate as of June 30, 2020
(2) Per Kimley-Horn Impact Fee Update, includes 1,036 of prepaid service units over the 10-year period
(3) Balances for this service area available as of July 31, 2020
(4) Per discussions with Town staff and Town files
(5) Per discussions with Town staff and Town files
(6) Per discussions with Town staff and Town files
(7) Per Kimley-Horn Impact Fee Update
(8) Assumes no new debt issued for projects
(9) Estimated interest cost provided by Town's Financial Advisor
(10) Assumes new debt proceeds expended over a 2-year timeframe with Year 10 bond proceeds spent in one year; Non-debt funded capital expenditures made in equal annual amounts

Town of Flower Mound 2020 Wastewater Impact Fee Update

Debt Service and Expenses Summary

Appendix B - Impact Fee Calculation Assumptions

Prairie Vista

I. New Debt Service Detail

Year	Series 1	Series 2	Series 3	Series 4	Series 5	Series 6	Series 7	Series 8	Series 9	Series 10	Total Annual New Debt Service [1]
1	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-	-
11	-	-	-	-	-	-	-	-	-	-	-
12	-	-	-	-	-	-	-	-	-	-	-
13	-	-	-	-	-	-	-	-	-	-	-
14	-	-	-	-	-	-	-	-	-	-	-
15	-	-	-	-	-	-	-	-	-	-	-
16	-	-	-	-	-	-	-	-	-	-	-
17	-	-	-	-	-	-	-	-	-	-	-
18	-	-	-	-	-	-	-	-	-	-	-
19	-	-	-	-	-	-	-	-	-	-	-
20	-	-	-	-	-	-	-	-	-	-	-
21	-	-	-	-	-	-	-	-	-	-	-
22	-	-	-	-	-	-	-	-	-	-	-
23	-	-	-	-	-	-	-	-	-	-	-
24	-	-	-	-	-	-	-	-	-	-	-
25	-	-	-	-	-	-	-	-	-	-	-
26	-	-	-	-	-	-	-	-	-	-	-
27	-	-	-	-	-	-	-	-	-	-	-
28	-	-	-	-	-	-	-	-	-	-	-
29	-	-	-	-	-	-	-	-	-	-	$ -
	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Town of Flower Mound 2020 Wastewater Impact Fee Update

Debt Service and Expenses Summary

Appendix B - Impact Fee Calculation Assumptions

Prairie Vista

II. Summary of Annual Expenses

Year	New Annual Debt Service[1]	Annual Capital Expenditures[2]	Annual Bond Proceeds[2]	Existing Annual Debt Service[3]	Annual Credit[4]	Total Expense
1	$ -	$ 44,166	$ -	$ 56,104	$ (56,104)	44,166
2	-	44,166	-	57,694	(57,694)	44,166
3	-	44,166	-	44,146	(44,146)	44,166
4	-	44,166	-	44,173	(44,173)	44,166
5	-	44,166	-	44,182	(44,182)	44,166
6	-	44,166	-	41,886	(41,886)	44,166
7	-	44,166	-	41,376	(41,376)	44,166
8	-	44,166	-	40,717	(40,717)	44,166
9	-	44,166	-	37,345	(37,345)	44,166
10	-	44,166	-	35,347	(35,347)	44,166
11	-	-	-	35,331	-	35,331
12	-	-	-	34,493	-	34,493
13	-	-	-	33,157	-	33,157
14	-	-	-	30,729	-	30,729
15	-	-	-	27,376	-	27,376
16	-	-	-	22,079	-	22,079
17	-	-	-	19,067	-	19,067
18	-	-	-	15,804	-	15,804
19	-	-	-	12,468	-	12,468
20	-	-	-	10,929	-	10,929
21	-	-	-	2,933	-	2,933
22	-	-	-	-	-	-
23	-	-	-	-	-	-
24	-	-	-	-	-	-
25	-	-	-	-	-	-
26	-	-	-	-	-	-
27	-	-	-	-	-	-
28	-	-	-	-	-	-
29	-	-	-	-	-	-
	$ -	$ 441,663	$ -	$ 687,333	$ (442,969)	$ 686,028

(1) Appendix B - Prairie Vista, Page 2; assumes no new debt issued for projects

(2) Appendix B - Prairie Vista, Page 1

(3) Eligible Outstanding Debt Funded Projects Percent of Utility Self-Supported Debt Issuance times total outstanding utility self-supported annual debt service

(4) Appendix B - Prairie Vista, Page 7

Town of Flower Mound 2020 Wastewater Impact Fee Update

Revenue Test

Appendix B - Impact Fee Calculation Assumptions

Prairie Vista

Year	Impact Fee [1]	Service Units	Impact Fee Revenue [1]	Annual Expenses	Sub-Total	Accumulated Interest	Estimated Fund Balance
Initial							$ 16,560
1	$ 456	145	$ 65,963	$ 44,166	$ 21,797	120	38,477
2	456	145	65,963	44,166	21,797	216	60,491
3	456	145	65,963	44,166	21,797	313	82,600
4	456	145	65,963	44,166	21,797	410	104,807
5	456	145	65,963	44,166	21,797	507	127,111
6	456	145	65,963	44,166	21,797	604	149,512
7	456	145	65,963	44,166	21,797	703	172,012
8	456	145	65,963	44,166	21,797	801	194,610
9	456	145	65,963	44,166	21,797	900	217,307
10	456	145	65,963	44,166	21,797	1,000	240,104
11	-	-	-	35,331	(35,331)	974	205,748
12	-	-	-	34,493	(34,493)	826	172,080
13	-	-	-	33,157	(33,157)	681	139,605
14	-	-	-	30,729	(30,729)	544	109,420
15	-	-	-	27,376	(27,376)	419	82,463
16	-	-	-	22,079	(22,079)	313	60,697
17	-	-	-	19,067	(19,067)	224	41,854
18	-	-	-	15,804	(15,804)	149	26,199
19	-	-	-	12,468	(12,468)	87	13,819
20	-	-	-	10,929	(10,929)	37	2,926
21	-	-	-	2,933	(2,933)	6	(0)
22	-	-	-	-	-	(0)	(0)
23	-	-	-	-	-	(0)	(0)
24	-	-	-	-	-	(0)	(0)
25	-	-	-	-	-	(0)	(0)
26	-	-	-	-	-	(0)	(0)
27	-	-	-	-	-	(0)	(0)
28	-	-	-	-	-	(0)	(0)
29	-	-	-	-	-	(0)	-
			659,634	686,028		9,834	

(1) Actual revenues could be closer to $190,000 due to prepaid service units.

Town of Flower Mound 2020 Wastewater Impact Fee Update

Impact Fee Calculation

Appendix B - Impact Fee Calculation Assumptions

Prairie Vista

Year	Number of Years to End of Period	Future Value Interest Rate Factor	Escalation Recovery Fee Factor	Annual Service Units Actual	Annual Service Units Escalated	Annual Expense Actual	Annual Expense Escalated
Prev							
1	29	1.1326	1.0000	145	164	44,166	50,025
2	28	1.1277	1.0000	145	163	44,166	49,807
3	27	1.1228	1.0000	145	162	44,166	49,590
4	26	1.1179	1.0000	145	162	44,166	49,373
5	25	1.1130	1.0000	145	161	44,166	49,158
6	24	1.1082	1.0000	145	160	44,166	48,944
7	23	1.1033	1.0000	145	159	44,166	48,730
8	22	1.0985	1.0000	145	159	44,166	48,518
9	21	1.0937	1.0000	145	158	44,166	48,306
10	20	1.0890	1.0000	145	157	44,166	48,095
11	19	1.0842	1.0000	-	-	35,331	38,306
12	18	1.0795	1.0000	-	-	34,493	37,235
13	17	1.0748	1.0000	-	-	33,157	35,636
14	16	1.0701	1.0000	-	-	30,729	32,883
15	15	1.0654	1.0000	-	-	27,376	29,167
16	14	1.0608	1.0000	-	-	22,079	23,421
17	13	1.0562	1.0000	-	-	19,067	20,138
18	12	1.0515	1.0000	-	-	15,804	16,618
19	11	1.0470	1.0000	-	-	12,468	13,053
20	10	1.0424	1.0000	-	-	10,929	11,392
21	9	1.0378	1.0000	-	-	2,933	3,044
22	8	1.0333	1.0000	-	-	-	-
23	7	1.0288	1.0000	-	-	-	-
24	6	1.0243	1.0000	-	-	-	-
25	5	1.0199	1.0000	-	-	-	-
26	4	1.0154	1.0000	-	-	-	-
27	3	1.0110	1.0000	-	-	-	-
28	2	1.0066	1.0000	-	-	-	-
29	1	1.0022	1.0000	-	-	-	-
					1,605	686,028	751,439

Total Escalated Expense for Entire Period	$	751,439
Less Future Value of Initial Fund Balance		18,798
Net Escalated Expense for Entire Period	$	732,642
Total Escalated Service Units		1,605
Impact Fee for Prairie Vista	**$**	**456**

Town of Flower Mound 2020 Wastewater Impact Fee Update

Impact Fee Project Funding

Appendix B - Impact Fee Calculation Assumptions

Prairie Vista

Impact Fee Project Name[1]	Impact Fee Project No.[1]	Total Project Cost [1]	Percent Recoverable [1]	Impact Fee Recoverable Cost [1]	Debt Funded [2] Existing	Debt Funded [2] Proposed	Non-Debt Funded[2]	Impact Fee Recoverable Cost
Wastewater Capital Improvements								
TRA System Contract	1	$ 3,366,818	27.0%	$ 909,041	$ 513,378	$ -	$ 395,663	$ 909,041
2020 Wastewater Master Plan and Impact Fee Updates	2	46,000	100.0%	46,000	-	-	46,000	46,000
Total		**$ 3,412,818**		**$ 955,041**	**$ 513,378**	**$ -**	**$ 441,663**	**$ 955,041**

(1) Per Kimley-Horn Impact Fee Update

(2) Based on Contributions by Project and Planned Future Debt Financing

Town of Flower Mound 2020 Wastewater Impact Fee Update

Credit Determination

Appendix B - Impact Fee Calculation Assumptions

Prairie Vista

2020 Service Units [1]	-	
Ten Year Growth in Service Units [1]	1,445	
	10	years
Annual Growth in Service Units	145	

	1	2	3	4	5	6	7	8	9	10	Total
Total Debt Service Eligible for Impact Fees	$ 56,104	$ 57,694	$ 44,146	$ 44,173	$ 44,182	$ 41,886	$ 41,376	$ 40,717	$ 37,345	$ 35,347	$ 442,969
2020 Service Units Plus Prairie Vista Growth	145	289	434	578	723	867	1,012	1,156	1,301	1,445	
Total Debt Service Eligible for Impact Fees per Service Unit	$ 388.26	$ 199.63	$ 101.84	$ 76.42	$ 61.15	$ 48.31	$ 40.91	$ 35.22	$ 28.72	$ 24.46	
Annual Service Unit Growth in Prairie Vista (Cumulative)	145	289	434	578	723	867	1,012	1,156	1,301	1,445	
Annual Wastewater Utility Revenue Generated by Additional Service Units for Debt Service Eligible for Impact Fees	$ 56,104	$ 57,694	$ 44,146	$ 44,173	$ 44,182	$ 41,886	$ 41,376	$ 40,717	$ 37,345	$ 35,347	$ 442,969

Credit Amount **$ 442,969**

(1) Per Kimley-Horn Impact Fee Update, which includes 1,036 of prepaid service units per Town staff

Appendix C: Construction Cost Projections

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

Client:	**Flower Mound**	**Date:**	**10/20/2020**
Project:	**Wastewater Impact Fee Updates - Lakeside**	**Prepared By:**	**LMB**
KHA No.:	**061000201**	**Checked By:**	**MAS**

Title:	**Southside Force Main Extension**	**Project:**	**1**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Project Cost Provided by Town	1	LS	$2,499,099.00	$ 2,499,099
	Basis for Cost Projection:	**Total:**			$ 2,499,099
	Constructed				

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

Client:	**Flower Mound**	**Date:**	**10/20/2020**
Project:	**Wastewater Impact Fee Updates - Lakeside**	**Prepared By:**	**LMB**
KHA No.:	**061000201**	**Checked By:**	**MAS**

Title:	**Lakeside Lift Station and Force Main**	**Project:**	**2**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Mobilization Bonds and Insurance	1	LS	$50,000.00	$50,000
2	18" Ductile Iron Force Main	4,600	LF	$200.00	$920,000
3	Bore with 36" Steel Casing	400	LF	$800.00	$320,000
4	Connect to Headwork	1	EA	$5,000.00	$5,000
5	Trench Safety	4,600	LF	$2.00	$9,200
6	Seeding, Fertilizer and Erosion Control	4,600	EA	$5.00	$23,000
7	Air Release/Vacuum Valve	2	EA	$20,000.00	$40,000
8	Connect to Existing 18" Force Main	1	EA	$15,000.00	$15,000
9	Cathodic Protection	1	EA	$55,000.00	$55,000

Basis for Cost Projection:

- ☑ No Design Completed
- ☐ Preliminary Design
- ☐ Final Design

Subtotal:			$ 1,437,200
Eng/Survey Fees (+/- %):	15		$ 216,000
Contingency (+/- %):	25		$ 366,800
Prop Acquisition:			$ -
Total:			$ 2,020,000

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

Client:	**Flower Mound**	**Date:**	**10/20/2020**
Project:	**Wastewater Impact Fee Updates - Lakeside**	**Prepared By:**	**LMB**
KHA No.:	**061000201**	**Checked By:**	**MAS**

Title:	**Southside Pump Upgrade**	**Project:**	**3**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Mobilization Bonds and Insurance	1	LS	$20,000.00	$20,000
2	1,500 GPM Submersible Pump and 85 HP Motor	2	EA	$120,000.00	$240,000
3	Electrical / SCADA	1	LS	$12,500.00	$12,500
4	Mechanical Piping	1	LS	$50,000.00	$50,000
5	Variable Frequency Drives	2	EA	$65,000.00	$130,000
6	Remove Existing Pumps	2	EA	$10,000.00	$20,000

Basis for Cost Projection:

- [x] No Design Completed
- [ ] Preliminary Design
- [ ] Final Design

Subtotal:		$	472,500
Eng/Survey Fees (+/- %):	15	$	71,000
Contingency (+/- %):	25	$	136,500
Prop Acquisition:		$	-
Total:		$	680,000

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

Client:	**Flower Mound**	**Date:**	**10/20/2020**
Project:	**Wastewater Impact Fee Updates - Lakeside**	**Prepared By:**	**LMB**
KHA No.:	**061000201**	**Checked By:**	**MAS**

Title:	**Southside Gravity Main Improvements**	**Project:**	**4**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Mobilization Bonds and Insurance	1	LS	$40,000.00	$40,000
	Eastern Improvements				
2	15" Wastewater Main	2,970	LF	$ 155.00	$460,350
3	4' Manhole (8" - 18" Main)	9	EA	$ 10,000.00	$90,000
4	Concrete Pavement Repair	267	SY	$ 110.00	$29,333
5	Bore with 36" Steel Casing	380	LF	$ 850.00	$323,000
6	Seeding, Fertilizer & Erosion Control	2,390	LF	$ 10.00	$23,900
7	Trench Safety	2,590	LF	$ 2.00	$5,180
8	TV Inspection	2,970	LF	$ 2.00	$5,940
9	Vacuum Testing of Sanitary Sewer Manholes	11	EA	$ 500.00	$5,500
10	Connect to Existing Manhole	2	EA	$ 9,000.00	$18,000
	Subtotal				*$961,203*
	Western Improvements				
9	12" Wastewater Main	620	LF	$ 130.00	$80,600
10	4' Manhole (8" - 18" Main)	2	EA	$ 10,000.00	$20,000
11	Seeding, Fertilizer & Erosion Control	620	LF	$ 10.00	$6,200
12	Trench Safety	620	LF	$ 2.00	$1,240
13	TV Inspection	620	LF	$ 2.00	$1,240
14	Vacuum Testing of Sanitary Sewer Manholes	4	EA	$ 500.00	$2,000
15	Connect to Existing Manhole	2	EA	$ 9,000.00	$18,000
	Subtotal				*$111,280*

Basis for Cost Projection:

- [x] No Design Completed
- [ ] Preliminary Design
- [ ] Final Design

Subtotal:			$ 1,112,483
Eng/Survey Fees (+/- %):	15		$ 167,000
Contingency (+/- %):	25		$ 290,517
Prop Acquisition:			$ -
Total:			$ 1,570,000

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

Client:	**Flower Mound**	**Date:**	**10/20/2020**
Project:	**Wastewater Impact Fee Updates - Lakeside**	**Prepared By:**	**LMB**
KHA No.:	**061000201**	**Checked By:**	**MAS**

Title:	**2001 Wastewater Treatment Plant Improvements**	**Project:**	**5**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Project Cost Provided by Town	1.00	LS	$ 19,191,263.00	$ 19,191,263
	Basis for Cost Projection:	**Total:**			$ 19,191,263
	Constructed				

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

Client:	**Flower Mound**	**Date:**	**10/20/2020**
Project:	**Wastewater Impact Fee Updates - Lakeside**	**Prepared By:**	**LMB**
KHA No.:	**061000201**	**Checked By:**	**MAS**

Title:	**2020 Wastewater Mater Plan and Impact Fee Updates**	**Project:**	**6**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Project Cost Per KH Engineering Contract	0.25	LS	$ 184,000.00	$ 46,000
	Basis for Cost Projection:	**Total:**			$ 46,000
	KH Engineering Contract with Town				

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

Client:	**Flower Mound**	**Date:**	**10/20/2020**
Project:	**Wastewater Impact Fee Updates - Lakeside**	**Prepared By:**	**LMB**
KHA No.:	**061000201**	**Checked By:**	**MAS**

Title:	**Wastewater Treatment Plant Master Plan**	**Project:**	**7**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Project Cost Provided by Town	0.5	LS	$ 130,000.00	$ 65,000
	Basis for Cost Projection:	**Total:**			$ 65,000
	Project Completed				

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

Client:	**Flower Mound**	**Date:**	**10/20/2020**
Project:	**Wastewater Impact Fee Updates - Long Prairie**	**Prepared By:**	**LMB**
KHA No.:	**061000201**	**Checked By:**	**MAS**

Title:	**Bakers Branch Collector Phase I (Gerault to Lower Timber Interceptor)**	**Project:**	**1**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Project Cost Provided by Town	1.0	LS	$ 607,181.00	$ 607,181
	Basis for Cost Projection:	**Total:**			$ 607,181
	Project Completed				

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

Client:	**Flower Mound**	**Date:**	**10/20/2020**
Project:	**Wastewater Impact Fee Updates - Long Prairie**	**Prepared By:**	**LMB**
KHA No.:	**061000201**	**Checked By:**	**MAS**

Title:	**Bakers Branch Collector Phase II (Lexington Ave to Gerault Rd)**	**Project:**	**2**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Project Cost Provided by Town	1.0	LS	$ 1,351,217.00	$ 1,351,217
	Basis for Cost Projection:	**Total:**			$ 1,351,217
	Project Completed				

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

Client:	**Flower Mound**	**Date:**	**10/20/2020**
Project:	**Wastewater Impact Fee Updates - Long Prairie**	**Prepared By:**	**LMB**
KHA No.:	**061000201**	**Checked By:**	**MAS**

Title:	**Oak Street Lift Station and Force Main Phase III**	**Project:**	**3**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Project Cost Provided by Town	1.0	LS	$ 5,833,653.62	$ 5,833,654
	Basis for Cost Projection:	**Total:**			$ 5,833,654
	Project Completed				

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

Client:	**Flower Mound**	**Date:**	**10/20/2020**
Project:	**Wastewater Impact Fee Updates - Long Prairie**	**Prepared By:**	**LMB**
KHA No.:	**061000201**	**Checked By:**	**MAS**

Title: **Oak Street Lift Station and Force Main Phase IV** **Project:** **4**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Mobilization Bonds and Insurance	1	LS	$ 90,000.00	$ 90,000
	MECHANICAL				
2	7,000 gpm Submersible Pump and 215 HP Motor	1	EA	$ 230,000.00	$ 230,000
3	20"x12" Stainless Steel Reducing Elbow	3	EA	$ 15,000.00	$ 45,000
4	20" Stainless Steel Mechanical Piping	45	LF	$ 1,000.00	$ 45,000
5	20" Check Valve with Oil Cushion	3	EA	$ 25,000.00	$ 75,000
6	20" Harnessed Coupling	6	EA	$ 5,000.00	$ 30,000
7	20" Isolation Valve	3	EA	$ 20,000.00	$ 60,000
8	2" Air Release/Vacuum Valve	3	EA	$ 5,000.00	$ 15,000
9	Stainless Steel Pump Guide Rails	3	EA	$ 10,000.00	$ 30,000
10	Relocation of Existing 215 HP Pumps	2	EA	$ 40,000.00	$ 80,000
11	Remove and Dispose Existing Piping/Valves/Pump	1	LS	$ 30,000.00	$ 30,000
	YARD PIPING				
12	Bypass Pumping	1	LS	$ 350,000.00	$ 350,000
13	30" Discharge Header	60	LF	$ 1,000.00	$ 60,000
14	24" Gravity Line	30	LF	$ 700.00	$ 21,000
15	30" Gravity Line	30	LF	$ 900.00	$ 27,000
16	Connect to Existing Force Main	1	EA	$ 10,000.00	$ 10,000
17	Connect to Existing Gravity Main	2	EA	$ 10,000.00	$ 20,000
	SITE				
18	Splitter Box	1	EA	$ 150,000.00	$ 150,000
19	Grading, Erosion Control, Site Restoration	1	LS	$ 50,000.00	$ 50,000
20	Demolish Existing Electrical Building	1	LS	$ 25,000.00	$ 25,000
21	Move Equipment to New Electrical Building	1	LS	$ 50,000.00	$ 50,000
22	Remove Existing Hoist	1	LS	$ 5,000.00	$ 5,000
23	Install 5 Ton Bridge Crane	1	LS	$ 75,000.00	$ 75,000
24	Driveway Improvements	1	LS	$ 15,000.00	$ 15,000
	ELECTRICAL/SCADA				
20	Misc Electrical/SCADA/HVAC	1	LS	$ 100,000.00	$ 100,000
21	Motor Control Center	1	LS	$ 100,000.00	$ 100,000
22	Variable Frequency Drive	1	EA	$ 75,000.00	$ 75,000
23	400 KW Genset	1	EA	$ 175,000.00	$ 175,000
24	Automatic Transfer Switch and Switchgear Mods	1	LS	$ 100,000.00	$ 100,000
25	Temporary Power/Controls	1	LS	$ 100,000.00	$ 100,000
	STRUCTURAL				
26	New Electrical Building and Foundation	600	SF	$ 300.00	$ 180,000

Basis for Cost Projection:

- [x] No Design Completed
- [ ] Preliminary Design
- [ ] Final Design

Subtotal:			$ 2,418,000
Eng/Survey Fees (+/- %):	15		$ 363,000
Contingency (+/- %):	25		$ 619,000
Prop Acquisition:			$ -
Total			$ 3,400,000

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

Client:	**Flower Mound**	**Date:**	**10/20/2020**
Project:	**Wastewater Impact Fee Updates - Long Prairie**	**Prepared By:**	**LMB**
KHA No.:	**061000201**	**Checked By:**	**MAS**

Title:	**Upper Timber Creek Interceptor Phase I (FM 2499 to Morriss Rd and Buckthorn Ct to FM 1171)**	**Project:**	**5**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Project Cost Provided by Town	1.0	LS	$ 1,525,872.30	$ 1,525,872
	Basis for Cost Projection:	**Total:**			$ 1,525,872
	Project Completed				

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

Client:	**Flower Mound**	**Date:**	**10/20/2020**
Project:	**Wastewater Impact Fee Updates - Long Prairie**	**Prepared By:**	**LMB**
KHA No.:	**061000201**	**Checked By:**	**MAS**

Title:	**Upper Timber Creek Interceptor Phase III (FM 1171 to Hidden Forest Drive)**	**Project:**	**6**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Project Cost Provided by Town	1.0	LS	$ 2,448,208.40	$ 2,448,208
	Basis for Cost Projection:	**Total:**			$ 2,448,208
	Project Completed				

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

Client:	**Flower Mound**	**Date:**	**10/20/2020**
Project:	**Wastewater Impact Fee Updates - Long Prairie**	**Prepared By:**	**LMB**
KHA No.:	**061000201**	**Checked By:**	**MAS**

Title: **Upper Timber Interceptor (College Parkway to Pecan Drive)** **Project:** **7**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Mobilization	1	LS	$ 10,000.00	$ 10,000.00
2	15" Wastewater Main	1,240	LF	$ 155.00	$ 192,200
3	4' Manhole (8" - 18" Main)	5	EA	$ 10,000.00	$ 50,000
4	Seeding, Fertilizer & Erosion Control	1,180	LF	$ 10.00	$ 11,800
5	Concrete Pavement Repair	5	SY	$ 110.00	$ 550
6	Bore with 30" Steel Casing	60	LF	$ 750.00	$ 45,000
7	Trench Safety	1,180	LF	$ 2.00	$ 2,360
8	Vacuum Testing of Sanitary Sewer Manholes	7	EA	$ 500.00	$ 3,500
9	TV Inspection	1,240	LF	$ 2.00	$ 2,480
10	Connect to Existing Manhole	2	EA	$ 9,000.00	$ 18,000

Basis for Cost Projection:

- [x] No Design Completed
- [ ] Preliminary Design
- [ ] Final Design

Subtotal:		$ 335,890
Eng/Survey Fees (+/- %):	15	$ 51,000
Contingency (+/- %):	25	$ 93,110
Prop Acquisition:		$ -
Total:		$ 480,000

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

Client:	**Flower Mound**	**Date:**	**10/20/2020**
Project:	**Wastewater Impact Fee Updates - Long Prairie**	**Prepared By:**	**LMB**
KHA No.:	**061000201**	**Checked By:**	**MAS**

Title:	**Wellington Interceptor Improvements (Sections I and II)**	**Project:**	**8**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Project Cost Provided by Town	1.0	LS	$ 1,345,253.80	$ 1,345,254
	Basis for Cost Projection:	**Total:**			$ 1,345,254
	Project Completed				

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

Client:	**Flower Mound**	**Date:**	**10/20/2020**
Project:	**Wastewater Impact Fee Updates - Long Prairie**	**Prepared By:**	**LMB**
KHA No.:	**061000201**	**Checked By:**	**MAS**

Title: **Riverwalk Collector (Morris Road to Windsor Drive)** **Project:** **9**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Mobilization	1	LS	$ 10,000.00	$ 10,000.00
2	15" Wastewater Main	1,430	LF	$ 155.00	$ 221,650
3	4' Manhole (8" - 18" Main)	6	EA	$ 10,000.00	$ 60,000
4	Seeding, Fertilizer & Erosion Control	800	LF	$ 10.00	$ 8,000
5	Concrete Pavement Repair	420	SY	$ 110.00	$ 46,200
6	Trench Safety	1,430	LF	$ 2.00	$ 2,860
7	TV Inspection	1,430	LF	$ 2.00	$ 2,860
8	Vacuum Testing of Sanitary Sewer Manholes	8	EA	$ 500.00	$ 4,000
9	Connect to Existing Manhole	2	EA	$ 9,000.00	$ 18,000

Basis for Cost Projection:

- [x] No Design Completed
- [ ] Preliminary Design
- [ ] Final Design

Subtotal:		$ 373,570
Eng/Survey Fees (+/- %):	15	$ 57,000
Contingency (+/- %):	25	$ 99,430
Prop Acquisition:		$ -
Total:		$ 530,000

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

Client:	**Flower Mound**	**Date:**	**10/20/2020**
Project:	**Wastewater Impact Fee Updates - Long Prairie**	**Prepared By:**	**LMB**
KHA No.:	**061000201**	**Checked By:**	**MAS**

Title:	**2001 Wastewater Treatment Plant Improvements**	**Project:**	**10**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Project Cost Provided by Town	1.00	LS	$ 19,191,263.00	$ 19,191,263
	Basis for Cost Projection:	**Total:**			$ 19,191,263
	Constructed				

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

Client:	**Flower Mound**	**Date:**	**10/20/2020**
Project:	**Wastewater Impact Fee Updates - Long Prairie**	**Prepared By:**	**LMB**
KHA No.:	**061000201**	**Checked By:**	**MAS**

Title:	**2020 Wastewater Mater Plan and Impact Fee Updates**	**Project:**	**11**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Project Cost Per KH Engineering Contract	0.25	LS	$ 184,000.00	$ 46,000
	Basis for Cost Projection:	**Total:**			$ 46,000
	KH Engineering Contract with Town				

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

Client:	**Flower Mound**	**Date:**	**10/20/2020**
Project:	**Wastewater Impact Fee Updates - Long Prairie**	**Prepared By:**	**LMB**
KHA No.:	**061000201**	**Checked By:**	**MAS**

Title:	**Wastewater Treatment Plant Master Plan**	**Project:**	**12**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Project Cost Provided by Town	0.5	LS	$ 130,000.00	$ 65,000
	Basis for Cost Projection:	**Total:**			$ 65,000
	Project Completed				

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

Client:	**Flower Mound**	**Date:**	**10/20/2020**
Project:	**Wastewater Impact Fee Updates - Denton Creek**	**Prepared By:**	**LMB**
KHA No.:	**061000201**	**Checked By:**	**MAS**

Title:	**TRA System Contract**	**Project:**	**1**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	TRA System Contract	0.62	LS	$8,860,048.00	$ 5,493,230
	Basis for Cost Projection:	**Total:**			$ 5,493,230
	Existing Contract between TRA and Town				

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

Client:	**Flower Mound**	**Date:**	**10/20/2020**
Project:	**Wastewater Impact Fee Updates - Denton Creek**	**Prepared By:**	**LMB**
KHA No.:	**061000201**	**Checked By:**	**MAS**

Title:	**2020 Wastewater Mater Plan and Impact Fee Updates**	**Project:**	**2**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Project Cost Per KH Engineering Contract	0.25	LS	$ 184,000.00	$ 46,000
	Basis for Cost Projection:	**Total:**			$ 46,000
	KH Engineering Contract with Town				

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

Client:	**Flower Mound**	**Date:**	**10/20/2020**
Project:	**Wastewater Impact Fee Updates - Prairie Vista**	**Prepared By:**	**LMB**
KHA No.:	**061000201**	**Checked By:**	**MAS**

Title:	**TRA System Contract**	**Project:**	**1**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	TRA System Contract	0.38	LS	$8,860,048.00	$ 3,366,818
	Basis for Cost Projection:	**Total:**			$ 3,366,818
	Existing Contract between TRA and Town				

Kimley-Horn & Associates, Inc. **Opinion of Probable Construction Cost**

Client:	**Flower Mound**	**Date:**	**10/20/2020**
Project:	**Wastewater Impact Fee Updates - Prairie Vista**	**Prepared By:**	**LMB**
KHA No.:	**061000201**	**Checked By:**	**MAS**

Title:	**2020 Wastewater Mater Plan and Impact Fee Updates**	**Project:**	**2**

Item No.	Item Description	Quantity	Unit	Unit Price	Item Cost
1	Project Cost Per KH Engineering Contract	0.25	LS	$ 184,000.00	$ 46,000
	Basis for Cost Projection:	**Total:**			$ 46,000
	KH Engineering Contract with Town				

Attachment 5

TOWN OF FLOWER MOUND, TEXAS

ORDINANCE NO. _____

AN ORDINANCE OF THE TOWN COUNCIL OF THE TOWN OF FLOWER MOUND, TEXAS, AMENDING THE CODE OF ORDINANCES OF THE TOWN OF FLOWER MOUND, TEXAS, BY AMENDING CHAPTER 42, "IMPACT FEES," TO ADOPT UPDATED LAND USE ASSUMPTIONS AND UPDATED CAPITAL IMPROVEMENTS PLANS; PROVIDING AN UPDATE TO CERTAIN PROVISIONS REGARDING THE IMPOSITION OF IMPACT FEES; AMENDING APPENDIX A "FEE SCHEDULE" OF THE CODE OF ORDINANCES OF THE TOWN OF FLOWER MOUND, TEXAS RELATIVE TO CHAPTER 42 IMPACT FEES; MAKING FINDINGS; PROVIDING FOR THE REPEAL OF CONFLICTING ORDINANCES; PROVIDING A SEVERABILITY CLAUSE; AND PROVIDING AN EFFECTIVE DATE.

WHEREAS, the Town of Flower Mound ("Town") is a home-rule municipality possessing the full power of local self-government pursuant to Article II, Section 5 of the Texas Constitution, Section 51.072 of the Texas Local Government Code and its home rule charter; and

WHEREAS, the Town has previously adopted ordinances in compliance with Chapter 395 of the Texas Local Government Code regarding the calculation, assessment and collection of impact fees for roadways, water and wastewater facilities; and

WHEREAS, the Impact Fees Ordinance has been codified in Chapter 42 of the Code of Ordinances, Town of Flower Mound, Texas; and

WHEREAS, Texas Local Government Code Section 395.052 requires a municipality imposing an impact fee to update the land use assumptions and capital improvements plan at least once every five (5) years; and

WHEREAS, the Town provided notice as required by law and held a public hearing regarding updated Land Use Assumptions, updated Capital Improvements Plans and updates to the manner of imposing impact fees before the Capital Improvements Advisory Committee ("CIAC") on or about November 9, 2020; and

WHEREAS, the CIAC recommended approval of the updated Land Use Assumptions, updated Capital Improvements Plans and updates to the manner of imposing impact fees; and

WHEREAS, the Town Council finds that the Town has complied with Chapter 395 of the Texas Local Government Code in the amendment of the land use assumptions, capital improvements plan, and imposition of impact fees; and

WHEREAS, after public notice and public hearing as required by law, and upon due deliberation and consideration of the recommendation of the Capital Improvements

Advisory Committee, the Town Council of the Town of Flower Mound, Texas, has determined that the proposed amendments to adopt the updated Land Use Assumptions and updated Capital Improvement Plans and to amend certain provisions regarding the manner of imposing impact fees to assure the availability of adequate roadway, water and wastewater facilities and services in order to serve new development consistent with the policies set forth in the Town's Master Plan, as amended are in the best interest and in support of the health, safety, morals and general welfare of the citizens of Flower Mound and the public;

NOW, THEREFORE, BE IT ORDAINED BY THE TOWN COUNCIL OF THE TOWN OF FLOWER MOUND, TEXAS, THAT:

SECTION 1

All the above premises are hereby found to be true and correct and are hereby approved and incorporated into the body of this Ordinance as if copied in their entirety.

SECTION 2

That Section 42-1, "Capital Improvement Plans Adopted," of the Code of Ordinances of the Town of Flower Mound, Texas, is hereby repealed and replaced with a new Section 42-1 entitled "Land Use Assumptions and Capital Improvement Plans Adopted" to read as follows:

> **"Sec. 42-1. Land Use Assumptions And Capital Improvement Plans Adopted.**
>
> (a) The Town Council hereby adopts the Land Use Assumptions as set forth in the 2020 Land Use Assumptions for Impact Fee Update dated November 2020, attached hereto as Exhibit A and incorporated herein for all purposes allowed by law.
>
> (b) The Town Council hereby adopts the Water System Capital Improvement Plan as set forth in the Water Impact Fee Update Report for 2020 dated November 2020, attached hereto as Exhibit B and incorporated herein for all purposes allowed by law.
>
> (c) The Town Council hereby adopts the Wastewater System Capital Improvements Plan as set forth in the Wastewater Impact Fee Update Report for 2020 dated November 2020, attached hereto as Exhibit C and incorporated herein for all purposes allowed by law.
>
> (d) The Town Council hereby adopts the Roadway System Capital Improvement Plan as set forth in the Roadway Impact

Fee Update Report for 2020 dated November 2020, attached hereto as Exhibit D and incorporated herein for all purposes allowed by law."

SECTION 3

That existing Exhibits A, B, C, and D to Chapter 42 "Impact Fees" of the Code of Ordinances of the Town of Flower Mound, Texas, are hereby repealed in their entirety and replaced with Exhibits A, B, C, and D adopted herein.

SECTION 4

That Appendix A, "Fee Schedule" of the Code of Ordinances of the Town of Flower Mound, Texas, is hereby amended by the deletion of the existing provisions, charts, and tables regarding Chapter 42 "Impact Fees" contained therein and the replacement thereof with Exhibits E and F attached to this Ordinance.

SECTION 5

This Ordinance shall be cumulative of all provisions of ordinances of the Town of Flower Mound, Texas, except where the provisions of this Ordinance are in direct conflict with the provisions of such ordinances, in which event the conflicting provisions of such ordinances are hereby repealed.

SECTION 6

It is hereby declared to be the intention of the Town Council that the phrases, clauses, sentences, paragraphs, and sections of this Ordinance are severable, and if any phrase, clause, sentence, paragraph, or section of this Ordinance shall be declared unconstitutional by any court of competent jurisdiction, such unconstitutionality shall not affect any of the remaining phrases, clauses, sentences, paragraphs, and sections of this Ordinance, since same would have been enacted by the Town Council without the incorporation in this Ordinance of any such unconstitutional phrase, clause, sentence, paragraph, or section, and said remaining portions shall remain in full force and effect.

SECTION 7

This Ordinance shall take effect and be in full force from and after its passage, as provided by the Revised Civil Statutes of the State of Texas and the Home Rule Charter of the Town of Flower Mound, Texas.

DULY PASSED, APPROVED AND ADOPTED BY THE TOWN COUNCIL OF THE TOWN OF FLOWER MOUND, TEXAS, BY A VOTE OF _____TO_____, ON THIS THE 7th DAY OF DECEMBER 2020.

APPROVED:

_____
Steve Dixon, MAYOR

ATTEST:

_____
Theresa Scott, TOWN SECRETARY

APPROVED AS TO FORM AND LEGALITY:

_____
Bryn D. Meredith, TOWN ATTORNEY

EXHIBIT A

Land Use Assumptions
November 2020

EXHIBIT B

Water Impact Fee Update
November 2020

EXHIBIT C

Wastewater Impact Fee Update
November 2020

EXHIBIT D

Roadway Impact Fee Update
November 2020

EXHIBIT E

Water and Wastewater Impact Fees

EXHIBIT F

Road Impact Fees

TOWN COUNCIL AGENDA ITEM NO. 17

REGULAR ITEM

DATE: January 4, 2021

FROM: Dale Crown, P.E., Senior Project Engineer

ITEM: **Consider approval of a Construction Agreement with Excel Aircraft LLC, dba Excel Trenching, for the Morriss Road Water Lines Phase II (FM 1171 to Eaton) project, in the amount of $2,249,151.00; and authorization for the Mayor to execute same on behalf of the Town.**

BACKGROUND INFORMATION: On November 17, 2020, bids were received and opened for the Morriss Road Water Lines Phase II (FM 1171 to Eaton) project (Bid # 2021-2-B). Excel Aircraft LLC dba Excel Trenching submitted the lowest qualified bid of the nine responding bidders at a base bid of $2,249,151.00.

The Project consists of the construction of 74 linear feet of 20-inch water line, 3,896 linear feet of 24-inch water line, 741 linear feet of 30-inch water line, 134 linear feet of 8-inch water line and 195 linear feet of 12-inch water line, 143 linear feet of bore and steel encasement, and associated appurtenances.

The proposed 24-inch/30-inch water line will replace an existing 20-inch water line with past maintenance issues. Approximately 2600-ft of the existing line is located within easements traversing residential lots making some repairs time consuming and highly impactful to affected residents. Except at the northern tie-in to the existing main, the proposed 24-inch/30-inch water line alignment is planned to be located within Morriss Road right-of-way.

The proposed water main will provide additional capacity to the Town's distribution system per the Water Master Plan.

BOARD REVIEW/CITIZEN FEEDBACK: N/A

ALTERNATIVES/OPTIONS: A decision not to approve the Construction Agreement would result in limited future capacity of the Town's distribution system and continued maintenance issues with an existing 20-inch water line that is partially located within residential lots.

FISCAL IMPACT: $2,249,151.00

Proposed Expenditure/(Revenue):	**Account Number(s):**
$1,800,000.00	308-960-98801
$ 449,151.00	630-960-98801

Finance Review by: Debra Wallace, Interim Town Manager /CFO DW

Total project cost is $2,750,000. Funding sources are:

- TIRZ $ 1,800,000
- Utility Debt $ 950,000

LEGAL REVIEW: The Town's standard construction agreement form documents, prepared by Taylor, Olson, Adkins, Sralla, & Elam L.L.P., were used to draft this agreement. No alteration to the legal content of this form document was made in preparation of these documents.

ATTACHMENTS:

1. Bid Tabulation
2. Construction Agreement

DRAFT MOTION: Move to approve as presented in the agenda caption.

Attachment 1

Town of Flower Mound
Bid Tabulation

Bid No: 2021-2-B - Morriss Road Water Lines Phase II (FM 1171 to Eaton)

Bid Opening: 11/17/2020 at 11:00 AM

Company	Total Base Bid
Excel Aircraft LLC dba Excel Trenching	$ 2,249,151.00
Atkins Brothers Equipment Company Inc	$ 2,272,515.00
M-CO Construction Inc	$ 2,412,718.75
John Burns Construction Company of Texas Inc	$ 2,468,884.00
Joe Funk Construction	$ 2,495,736.68
Flow-Line Construction Inc	$ 2,760,960.00
Gomez Brothers Construction Inc	$ 2,852,707.00
Canary Construction Inc	$ 2,986,662.00
Dowager Utility Construction Ltd	$ 3,074,125.00

All bids/proposals submitted for the designated project are reflected **on this tabulation **sheet.** However, the listing of the bid/proposal on this tabulation sheet shall not be construed as a comment on the responsiveness of such bid/proposal or as any indication that the agency accepts such bid/proposal as being **responsive.** The agency will make a determination as to the responsiveness of the vendor responses submitted based upon compliance with all applicable laws, purchasing guidelines and project documents, including but not limited to the project specifications and contract **documents.** The agency will notify the successful vendor upon award of the contract and, as according to the law, all bid/proposal responses received will be available for inspection at that time.

Certified By: Sabrina Zadow
Purchasing Manager
Town of Flower Mound, Texas

Date: November 17, 2020

Attachment 2

TOWN OF FLOWER MOUND

MORRISS ROAD WATER LINES PHASE II
(FM 1171 TO EATON)

Bid # 2021-2-B

CONSTRUCTION AGREEMENT

THIS CONSTRUCTION AGREEMENT (the "Agreement"), made and entered into this 4th day of January, 2021, by and between the Town of Flower Mound, County of Denton, Texas, hereinafter referred to as the "Town," and Excel Aircraft LLC dba Excel Trenching, a Limited Liability Company, hereinafter referred to as the "Contractor." For and in consideration of the payment, agreements, and conditions hereinafter mentioned, and under the conditions expressed in the bonds herein, Contractor hereby agrees to complete the construction of improvements described as follows:

MORRISS ROAD WATER LINES PHASE II
(FM 1171 TO EATON)

Bid # 2021-2-B

in the Town of Flower Mound, Texas, and all extra work in connection therewith, under the terms as stated in this Agreement, and under the terms of the Contract Documents; and at his, her, or their own proper cost and expense to furnish all superintendence, labor, insurance, equipment, tools, and other accessories and services necessary to complete the said construction in accordance with all the Contract Documents, incorporated herein as if written word for word, and in accordance with the Plans, which include all maps, plats, blueprints, and other drawings and printed or written explanatory manner therefore, and the Conditions and Specifications as prepared by the Town or its consultant hereinafter called "Engineer", who has been identified by the endorsement of the Contractor's written proposal, and the General Conditions, Supplemental Conditions, and Special Provisions of this Agreement, and the payment, performance, and maintenance bonds hereto attached; all of which are made a part hereof and collectively evidence and constitute the entire Agreement.

ARTICLE 1. The Contract Documents shall consist of the following documents:

A. The Construction Agreement;

B. Properly executed Change Orders and Field Orders in writing and executed by the Town, the last in time being first in precedence;

C. Any listed and numbered addenda;

D. Special Provisions;

E. Supplementary Conditions;

F. Construction Drawings or Plans;

G. Technical Specifications;

H. Town's Standard Construction Details;

I. The most current edition of the *Town of Flower Mound Design Criteria and Construction Standards* (by reference);

J. *Occupational Safety and Health Standards – Excavation*, 20 CFR Part 1926 (by reference);

K. *Texas Manual on Uniform Traffic Control Devices (TMUTCD)* (by reference);

L. The General Conditions;

M. *Public Works Construction Standards - North Central Texas, as amended* (by reference);

N. Notice to Bidders;

O. Instructions to Bidders;

P. The Town's written notice to proceed to Contractor;

Q. The Contractor's Bid Proposal;

R. The Performance Bond, Payment Bond and Maintenance Bond; and

S. Bid materials distributed by the Town that relate to the Project.

These Contract Documents are incorporated by reference into this Agreement as if set out in their entirety. The Contract Documents are intended to be complementary; what is called for by one document shall be as binding as if called for by all Contract Documents. It is specifically provided; however, that in the event of any inconsistency in the Contract Documents, the inconsistency shall be resolved by giving precedence to the Contract Documents in the order in which they are listed herein above. If, however, there exists a conflict or inconsistency between the Technical Specifications and the Construction Drawings, it shall be the Contractor's obligation to seek clarification as to which requirements or provisions control before undertaking any work on that component of the project. Should the Contractor fail or refuse to seek a clarification of such conflicting or inconsistent requirements or provisions prior to any work on that component of the project,

the Contractor shall be solely responsible for the costs and expenses - including additional time - necessary to cure, repair, and/or correct that component of the project.

ARTICLE 2. For performance of the Work in accordance with the Contract Documents, the Town shall pay the Contractor in current funds an amount not to exceed **Two Million Two Hundred Forty Nine Thousand One Hundred Fifty One Dollars and Zero cents ($2,249,151.00)** taking into consideration additions to or deductions from the Total Bid through properly executed change orders by reason of alterations or modifications of the original quantities or by reason of "Extra Work" authorized under this Agreement in accordance with the provisions of the Contract Documents. It is hereby mutually agreed that for and in consideration of the payments as provided for herein to the Contractor by the Town, the said Contractor shall furnish all labor, equipment, and material (except as otherwise specified above) and shall perform all work necessary to complete the improvements in a good and workmanlike manner, ready for use, within the specified time for substantial completion of Two Hundred Forty (240) calendar days, and final completion of Two Hundred Seventy (270) calendar days ready for final payment, as measured from the Effective Start Date shown in the Notice to Proceed. The work shall be in strict accordance with this Agreement, a copy of which is filed pursuant to law in the office of the legal representative of the Town.

ARTICLE 3. Before commencing work, the Contractor shall, at its own expense, procure, pay for, and maintain the insurance coverage required by the Contract Documents written by companies approved by the State of Texas and acceptable to the Town of Flower Mound. Contractor shall provide the Town Purchasing Manager with certificates of insurance indicating coverage's required by the Contract Documents. The certificates are to be signed by a person authorized by that insurer to bind coverage on its behalf. Certificate of Insurance similar to the ACORD Form are acceptable. Town will not accept Memorandums of Insurance or Binders as proof of insurance. The Town reserves the right to require complete, certified copies of all required insurance policies at any time.

ARTICLE 4. The Contractor shall procure and pay for performance and payment bonds applicable to the work in the amount of the total bid price. The Contractor shall also procure and pay for a maintenance bond applicable to the work in the amount of one hundred percent (100%) of the total bid price. The period of the Maintenance Bond shall be two years from the date of acceptance of all work done under the contract, to cover the guarantee as set forth in the Special Conditions. The performance, payment, and maintenance bonds shall be issued on the forms attached to this Construction Agreement. Other performance, payment, and maintenance bond forms shall not be accepted. Among other things, these bonds shall apply to any work performed during the two-year warranty period after acceptance as described in this Construction Agreement.

The performance, payment, and maintenance bonds shall be issued by a corporate surety, acceptable to and approved by the Town, authorized to do business in the State of Texas, pursuant to Chapter 2253 of the Texas Government Code. Further, the Contractor shall supply capital and surplus information concerning the surety and reinsurance information concerning the performance, payment, and maintenance bonds upon Town request. In

addition to the foregoing requirements if the amount of the bond exceeds One Hundred Thousand and Zero/One Hundredths Dollars ($100,000.00) the bond must be issued by a surety that is qualified as a surety on obligations permitted or required under federal law as indicated by publication of the surety's name in the current U.S. Treasury Department Circular 570. In the alternative, an otherwise acceptable surety company (not qualified on federal obligations) that is authorized and admitted to write surety bonds in Texas must obtain reinsurance on any amounts in excess of One Hundred Thousand and Zero/One Hundredths Dollars ($100,000.00) from a reinsurer that is authorized and admitted as a reinsurer in Texas who also qualifies as a surety or reinsurer on federal obligations as indicated by publication of the surety's or reinsurer's name in the current U.S. Treasury Department Circular 570.

ARTICLE 5. It is hereby further agreed that in consideration of the faithful performance of the work by the Contractor, the Town shall pay the Contractor the compensation due him by reason of said faithful performance of the work in accordance with the provisions of this Agreement. As it completes portions of the Work, the Contractor may request progress payments from the Town. Progress payments shall be made by the Town based on the Town's estimate of the value of the Work properly completed by the Contractor since the time the last progress payment was made. The "estimate of the value of the work properly completed" shall include the net invoice value of acceptable, non-perishable materials actually delivered to and currently at the job site only if the Contractor provides to the Town satisfactory evidence that material suppliers have been paid for these materials.

No progress payment shall be due to the Contractor until the Contractor furnishes to the Town:

1. copies of documents reasonably necessary to aid the Town in preparing an estimate of the value of Work properly completed;

2. full releases of liens, including releases from subcontractors providing materials or delivery services relating to the Work, in a form acceptable to the Town releasing all liens or claims relating to goods and services provided up to the date of the most recent previous progress payment;

3. an updated and current schedule clearly detailing the project's critical path elements; and

4. any other documents required under the Contract Documents.

Progress payments shall not be made more frequently than once every thirty (30) calendar days unless the Town determines that more frequent payments are appropriate. Further, progress payments are to be based on estimates and these estimates are subject to correction through the adjustment of subsequent progress payments and the final payment to Contractor. If the Town determines after final payment that it has overpaid the Contractor, then Contractor agrees to pay to the Town the overpayment amount specified by the Town within thirty (30) calendar days after it receives written demand from the Town.

The fact that the Town makes a progress payment shall not be deemed to be an admission by the Town concerning the quantity, quality, or sufficiency of the Contractor's work. Progress payments shall not be deemed to be acceptance of the Work nor shall a progress payment release the Contractor from any of its responsibilities under the Contract Documents.

After determining the amount of a progress payment to be made to the Contractor, the Town shall withhold a percentage of the progress payment as retainage. The amount of retainage withheld from each progress payment shall be set depending upon the value of the Contract Work on the effective date of the Contract:

Contract Amount	Retainage Percentage
Up to $25,000.00	15%
$25,000.00 to $400,000.00	10%
Over $400,000.00	5%

Retainage shall be withheld and may be paid to:

1. ensure proper completion of the Work. The Town may use retained funds to pay replacement or substitute contractors to complete unfinished or defective work;

2. ensure timely completion of the Work. The Town may use retained funds to pay liquidated damages; and

3. provide an additional source of funds to pay claims for which the Town is entitled to indemnification from Contractor under the Contract Documents.

Retained funds shall be held by the Town in accounts that shall not bear interest. Retainage not otherwise withheld in accordance with the Contract Documents shall be returned to the Contractor as part of the final payment.

ARTICLE 6. The Town may withhold payment of some or all of any progress or final payment that would otherwise be due if the Town determines, in its discretion, that the Work has not been performed in accordance with the Contract Documents. The Town may use these funds to pay replacement or substitute contractors to complete unfinished or defective Work.

The Town may withhold payment of some or all of any progress or final payment that would otherwise be due if the Town determines, in its discretion, that it is necessary and proper to provide an additional source of funds to pay claims for which the Town is entitled

to indemnification from Contractor under the Contract Documents. Amounts withheld under this section shall be in addition to any retainage.

ARTICLE 7. When the erosion control measures have been completed, the Contractor shall request that the Town perform a final inspection. The Town shall inspect the Work. If the Town determines that the Work has been completed in accordance with the Contract Documents and per TPDES General Construction Permit, it shall issue a written Notice of Acceptance of the Work. If the Town determines that the Work has not been completed in accordance with the Contract Documents or TPDES General Construction Permit, then it shall provide the Contractor with a verbal or written list of items to be completed before another final inspection shall be scheduled.

ARTICLE 8. When the Work is completed, the Contractor shall request that the Town perform a final inspection. The Town shall inspect the Work. If the Town determines that the Work has been completed in accordance with the Contract Documents, it shall issue a written notice of acceptance of the Work. If the Town determines that the Work has not been completed in accordance with the Contract Documents, then it shall provide the Contractor with a written list of items to be completed before another final inspection shall be scheduled.

It is specifically provided that Work shall be deemed accepted on the date specified in the Town's written notice of acceptance of the Work. The Work shall not be deemed to be accepted based on "substantial completion" of the Work, use or occupancy of the Work, or for any reason other than the Town's written Notice of Acceptance. Further, the issuance of a certificate of occupancy for all or any part of the Work shall not constitute a Notice of Acceptance for that Work.

In its discretion, the Town may issue a Notice of Acceptance covering only a portion of the Work. In this event, the notice shall state specifically what portion of the Work is accepted.

ARTICLE 9. After all Work required under the Contract Documents has been completed, inspected, and accepted, the Town shall calculate the final payment amount promptly after necessary measurements and computations are made. The final payment amount shall be calculated to:

1. include the estimate of the value of Work properly completed since the date of the most recent previous progress payment;

2. correct prior progress payments; and

3. include retainage or other amounts previously withheld that are to be returned to Contractor, if any.

Final payment to the Contractor shall not be due until the Contractor provides original full releases of liens, or other evidence satisfactory to the Town to show that all sums due for

labor, services, and materials furnished for or used in connection with the Work have been paid or shall be paid with the final payment. To ensure this result, Contractor consents to the issuance of the final payment in the form of joint checks made payable to Contractor and others. The Town may, but is not obligated to, issue final payment using joint checks.

Final payment to the Contractor shall not be due until the Contractor has supplied to the Town copies of all documents that the Town determines are reasonably necessary to ensure both that the final payment amount is properly calculated and that the Town has satisfied its obligation to administer the Agreement in accordance with applicable law.

Subject to the requirements of the Contract Documents, the Town shall pay the Final Payment within thirty (30) calendar days after the date specified in the Notice of Acceptance. This provision shall apply only after all Work called for by the Contract Documents has been accepted.

ARTICLE 10. **CONTRACTOR SHALL DEFEND, INDEMNIFY, AND HOLD HARMLESS THE TOWN, ITS TOWN COUNCIL, OFFICERS, EMPLOYEES, AND AGENTS FROM AND AGAINST ALL CITATIONS, CLAIMS, COSTS, DAMAGES, DEMANDS, EXPENSES, FINES, JUDGMENTS, LOSSES, PENALTIES, OR SUITS, WHICH IN ANY WAY ARISE OUT OF, RELATE TO, OR RESULT FROM THE PERFORMANCE OF THE WORK OR WHICH ARE CAUSED BY THE INTENTIONAL ACTS OR NEGLIGENT ACTS OR OMISSIONS OF CONTRACTOR, ITS SUBCONTRACTORS, ANY OFFICERS, AGENTS, OR EMPLOYEES OF EITHER CONTRACTOR OR ITS SUBCONTRACTORS, AND ANY OTHER THIRD PARTIES FOR WHOM OR WHICH CONTRACTOR IS LEGALLY RESPONSIBLE (THE "INDEMNIFIED ITEMS").**

BY WAY OF EXAMPLE, THE INDEMNIFIED ITEMS MAY INCLUDE PERSONAL INJURY AND DEATH CLAIMS AND PROPERTY DAMAGE CLAIMS, INCLUDING THOSE FOR LOSS OF USE OF PROPERTY.

INDEMNIFIED ITEMS SHALL INCLUDE ATTORNEYS' FEES AND COSTS, COURT COSTS, AND SETTLEMENT COSTS. INDEMNIFIED ITEMS SHALL ALSO INCLUDE ANY EXPENSES, INCLUDING ATTORNEYS' FEES AND EXPENSES, INCURRED BY AN INDEMNIFIED INDIVIDUAL OR ENTITY IN ATTEMPTING TO ENFORCE THIS INDEMNITY.

In its sole discretion, the Town shall have the right to approve counsel to be retained by Contractor in fulfilling its obligation to defend and indemnify the Town. Contractor shall retain approved counsel for the Town within seven business days after receiving written notice from the Town that it is invoking its right to indemnification under this Agreement. If Contractor does not retain counsel for the Town within the required time, then the Town shall have the right to retain counsel and the Contractor shall pay the attorneys' fees and expenses.

The Town retains the right to provide and pay for any or all costs of defending indemnified items, but it shall not be required to do so. To the extent that Town elects to provide and pay for any such costs, Contractor shall indemnify and reimburse Town for such costs.

ARTICLE 11. The Contractor understands and agrees that time is of the essence in performing and completing the Work. The Town and Contractor acknowledge that the actual damages the Town may sustain if the Contractor fails to complete the Work on time are uncertain and will be difficult to ascertain. The Contractor agrees that the sum of Two Hundred Fifty and Zero/One Hundredths Dollars ($250.00) per day or portion of a day in Liquidated Damages will be deducted from the Contract price by the Town for each calendar day or portion thereof that the work is not substantially complete beyond the Substantially Complete Contract time, or within such extra time as may have been allowed by an extension approved by the Town. The Contractor also agrees that the sum of Two Hundred Fifty and Zero/One Hundredths Dollars ($250.00) per day or portion of a day in Liquidated Damages for each calendar day or portion thereof the work has not been finally completed by the Contractor beyond the Contract time for final completion, or within such extra time as may have been allowed by an extension approved by the Town. The Town and the Contractor agree that this amount is payable as reasonable and just compensation for failure to complete the Work on time. This amount is payable as liquidated damages and not as a penalty.

ARTICLE 12. For a two-year period after the date specified in a written notice of acceptance of Work and authorization to make final payment by the Flower Mound Town Council, Contractor shall provide and pay for all labor and materials that the Town determines are necessary to correct all defects in the Work arising because of defective materials or workmanship supplied or provided by Contractor or any subcontractor. This shall also include areas of vegetation that did meet TPDES General Construction Permit during final close out but have since become noncompliant.

Forty-five (45) to sixty (60) calendar days before the end of the two-year warranty period, the Town may make a warranty inspection of the Work. The Town shall notify the Contractor of the date and time of this inspection so that a Contractor representative may be present. After the warranty inspection, and before the end of the two-year warranty period, the Town shall mail to the Contractor a written notice that specifies the defects in the Work that are to be corrected.

The Contractor shall begin the remedial work within ten (10) calendar days after receiving the written notice from the Town. If the Contractor does not begin the remedial work timely or prosecute it diligently, then the Town may pay for necessary labor and materials to effect repairs and these expenses shall be paid by the Contractor, the maintenance bond surety, or both.

If the Town determines that a hazard exists because of defective materials and workmanship, then the Town may take steps to alleviate the hazard, including making repairs. These steps may be taken without prior notice either to the Contractor or its surety.

Expenses incurred by the Town to alleviate the hazard shall be paid by the Contractor, the maintenance bond surety, or both.

Any Work performed by or for the Contractor to fulfill its warranty obligations shall be performed in accordance with the Contract Documents. By way of example only, this is to ensure that Work performed during the warranty period is performed with required insurance and the maintenance and payment bonds still in effect.

Work performed during the two-year warranty period shall itself be subject to a one-year warranty. This warranty shall be the same as described in this section.

The Town may make as many warranty inspections as it deems appropriate.

ARTICLE 13. The Contractor shall be responsible for ensuring that it and any subcontractors performing any portion of the Work required under the Contract Documents comply with all applicable federal, state, county, and municipal laws, regulations, and rules that relate in any way to the performance and completion of the Work. This provision applies whether or not a legal requirement is described or referred to in the Contract Documents.

Ancillary/Integral Professional Services: In selecting an architect, engineer, land surveyor, or other professional to provide professional services, if any, that are required by the Contract Documents, Contractor shall not do so on the basis of competitive bids but shall make such selection on the basis of demonstrated competence and qualifications to perform the services in the manner provided by Section 2254.004 of the Texas Government Code and shall so certify to the Town the Contractor's agreement to comply with this provision with Contractor's bid.

ARTICLE 14. The Contractor shall sign the Construction Agreement, and deliver signed performance, payment, and maintenance bonds and proper insurance policy endorsements (and/or other evidence of coverage) within fifteen (15) calendar days after the Town makes available to the Contractor copies of the Contract Documents for signature. Six copies of the Contract Documents shall be signed by an authorized representative of the Contractor and returned to the Town.

The Construction Agreement "effective date" shall be the date on which the Town Council acts to approve the award of the Contract for the Work to Contractor. It is expressly provided; however, that the Town Council delegates the authority to the Town Manager or his designee to rescind the Contract award to Contractor at any time before the Town delivers to the Contractor a copy of this Construction Agreement that bears the signature of the Mayor or Town Manager and Town Secretary or their authorized designees. The purpose of this provision is to ensure that:

1. the Contractor timely delivers to the Town all bonds and insurance documents; and

2. the Town retains the discretion not to proceed if the Town Manager or his designee determines that information indicates that the Contractor was not the lowest responsible bidder or that the Contractor cannot perform all of its obligations under the Contract Documents.

THE CONTRACTOR AGREES THAT IT SHALL HAVE NO CLAIM OR CAUSE OF ACTION OF ANY KIND AGAINST THE TOWN, INCLUDING A CLAIM FOR BREACH OF CONTRACT, NOR SHALL THE TOWN BE REQUIRED TO PERFORM UNDER THE CONTRACT DOCUMENTS, UNTIL THE DATE THE TOWN DELIVERS TO THE CONTRACTOR A COPY OF THE CONSTRUCTION AGREEMENT BEARING THE SIGNATURES JUST SPECIFIED.

Contractor stipulates that the Town is a political subdivision of the State of Texas, and, as such, may enjoy immunities from suit and liability under the Constitution and laws of the State of Texas. By entering into this Agreement, the Town does not waive any of its immunities from suit and/or liability, except as otherwise expressly and specifically provided herein or as specifically provided by law.

Payments under this Contract are due and payable in accordance with the provisions of Texas Government Code Section 2251.022. Interest on unpaid and overdue amounts shall accrue in accordance with Texas Government Code Section 2251.025.
Attention is called to the Government Code, Chapter 2258, Prevailing Wage Rates. Contractor and any subcontractor shall pay not less than the prevailing rates of per diem wages in the locality at the time of construction to all laborers, workmen, and mechanics employed by them in the execution of this Agreement. The Town has determined the general prevailing rate of per diem wages in the locality in which the public work is to be constructed by using the prevailing wage rates as determined by the United States Department of Labor in accordance with the Davis-Bacon Act as applicable to this Project. Contractor or a subcontractor who violates this provision shall be liable for the penalty specified in Texas Government Code Section 2258.023, which as of the date of this Agreement is $60 for each worker employed for each calendar day or part of the day that the worker is paid less than the wage rates stipulated in the contract. Town reserves the right to receive and review payroll records, payment records, and earnings statements of employees of Contractor, and of Contractor's Subcontractors, and of Sub-Subcontractors to verify payments made to same. However, no Claim for additional compensation shall be considered by Town because of payments of wage rates in excess of the applicable rate provided herein.

It is distinctly understood that by virtue of this Contract, no mechanic, contractor, materialmen, artisan, laborer, or subcontractor, whether skilled or unskilled, shall ever in any manner have, claim, or acquire any lien upon the project of whatever nature or kind so erected or to be erected by virtue of this Contract, nor upon any of the land upon which said improvements are so erected, built, or situated, such property being public property belonging to a political subdivision of the State of Texas.

The Contractor represents and warrants the following to the Town (in addition to the other representations and warranties contained in the Contract Documents), as an inducement to the Town to execute this Contract, which representations and warranties shall survive the execution and delivery of the Contract and the Final Completion of the Work:

1. that it is financially solvent, able to pay its debts as they mature, and possessed of sufficient working capital to complete the Work and perform its obligations under the Contract Documents;

2. that it is able to furnish the tools, materials, supplies, equipment and labor required to timely complete the Work and perform its obligations hereunder and has sufficient experience and competence to do so;

3. that it is authorized to do business in the State of Texas and properly licensed by all necessary governmental, public and quasi-public authorities having jurisdiction over it, the Work, or the site of the Project; and

4. that the execution of the Contract and its performance thereof are within its duly-authorized powers.

The Contract Documents shall be construed and interpreted by applying Texas law. Exclusive venue for any litigation concerning the Contract Documents shall be Denton County, Texas.

Although the Construction Agreement has been drafted by the Town, should any portion of the Construction Agreement be disputed, the Town and Contractor agree that it shall not be construed more favorably for either party.

The Contract Documents are binding upon the Town and Contractor and shall inure to their benefit as well as that of their respective successors and assigns.

If Town Council approval is not required for the Construction Agreement under applicable law, then the Construction Agreement "effective date" shall be the date on which the Mayor or Town Manager and Town Secretary or their designees have signed the Construction Agreement. If the Mayor or Town Manager and Town Secretary sign on different dates, then the later date shall be the effective date.

IN WITNESS WHEREOF, the Town and the Contractor, respectively, have caused this Agreement to be duly executed in the day and year first herein written in two copies, all of which to all intents and purposes shall be considered as the original.

This Agreement will be effective on the ____ day of _____, 20___.

TOWN OF FLOWER MOUND	CONTRACTOR
_____	_____ (Signature)
Steve Dixon, MAYOR	
	_____ (Printed Name)
	_____ (Position)
(CORPORATE SEAL)	(CORPORATE SEAL)
ATTEST:_____	ATTEST:_____ (Signature)
Theresa Scott, TOWN SECRETARY	
	_____ (Position)

TOWN COUNCIL AGENDA ITEM NO. 18

REGULAR ITEM

DATE: January 4, 2020

FROM: Claire Barnes, Planner

ITEM: **Consider a request for a Site Plan (SP20-0013 – Argyle ISD Administration Building) to develop a school administration building with an exception to Section IV, Storm Water Improvements, regarding use of an open channel storm sewer, contained in the Town's Engineering Design Criteria and Construction Standards adopted through Chapter 32 of the Code of Ordinances. The property is generally located east of Canyon Falls Drive and north of Denton Creek Boulevard. (*The Planning and Zoning Commission recommended approval, with the condition that the open channel storm sewer be closed with any future development on the site, by a vote of 6 to 0 at its December 14, 2020, meeting*.)**

SUMMARY DATA:

- Building size – One 16,697 square-foot one-story building
- SMARTGrowth – Institutional uses are exempt
- Traffic Analysis – The AISD administration building will have minimal traffic interaction with the rest of campus, and based on the size of the building, it will have minimal traffic impact to either Canyon Falls Drive or Denton Creek Boulevard during morning and afternoon peak hours.
- Exceptions –Open channel storm sewer
- Incentives – N/A

BACKGROUND INFORMATION: Attached is the Planning and Zoning Commission (P&Z) report and backup for this item.

During deliberations, P&Z discussed potential safety concerns with the design of the open channel. P&Z also had questions regarding the timing of the enclosed system's completion, which led them to recommend approval of the item with the added condition that the system be enclosed at the time of the next development on the site.

ATTACHMENTS:

1. Planning and Zoning Commission Staff Report

LEGAL REVIEW: N/A

DRAFT MOTION: Move to approve as presented in the agenda caption.

PLANNING AND ZONING COMMISSION

AGENDA ITEM NO: 2

REGULAR ITEM

DATE: December 14, 2020

FROM: Claire Barnes, Planner

ITEM: **Consider a request for a Site Plan (SP20-0013 – Argyle ISD Administration Building) to develop a school administration building with an exception to Section IV, Storm Water Improvements, regarding use of an open channel storm sewer, contained in the Town's Engineering Design Criteria and Construction Standards adopted through Chapter 32 of the Code of Ordinances. The property is generally located east of Canyon Falls Drive and north of Denton Creek Boulevard.**

I. ITEM SUMMARY

This application has been reviewed by DRC and determined to be ready for consideration by the Planning and Zoning Commission. There is an exception request to the Town's regulations that necessitates special consideration by the Commission (see Analysis below).

This application will require final action by the Town Council, which is scheduled for January 4, 2021.

II. APPLICATION ANALYSIS

The purpose of this site plan application is to develop a school administration building on the future Argyle ISD High School site. The subject site is approximately 107.015 acres. The property is zoned Planned Development District-98 (PD-98) for Single Family District 10 uses and master-planned for Institutional uses within the Denton Creek District area plan.

On August 5, 2019, Town Council approved a site plan for the Argyle ISD High School Phase 2. The 75-foot landscape setback along the site's street frontage was established as part of the Phase 1 site plan, approved March 23, 2015.

The applicant proposes to develop an approximately 16,697 square foot, one-story administration building, incorporating 84 additional parking spaces. Overall, the school development requires 776 parking spaces, and the site provides 864 spaces, which is within the Town's allowable 20 percent deviation. Access to the site is provided from Canyon Falls Drive and Denton Creek Boulevard.

The proposed elevations are in compliance with the Urban Design Plan. The elevations depict a one-story building comprised of brick, stone, and metal. The percentage of

metal panels does not exceed the maximum allowable secondary material percentage of 20% on any façade.

The landscape plan provided depicts all required landscaping for the development.

The applicant is requesting an exception to the Town's Engineering Design Criteria and Construction Standards regarding the use of an open channel storm sewer.

A. Exception to the Town's Engineering Design Criteria and Construction Standards

The Town's Engineering Design Criteria and Construction Standards, Section IV Storm Water Systems, Subsection C, Part 2, Open Channels, requires an enclosed channel unless the Town Council grants an exception to this standard. The developer is requesting an exception to this requirement for the channel to remain open and unenclosed at this time, however, the applicant, per the letter of intent, indicates that the channel would be enclosed with a future phase of development.

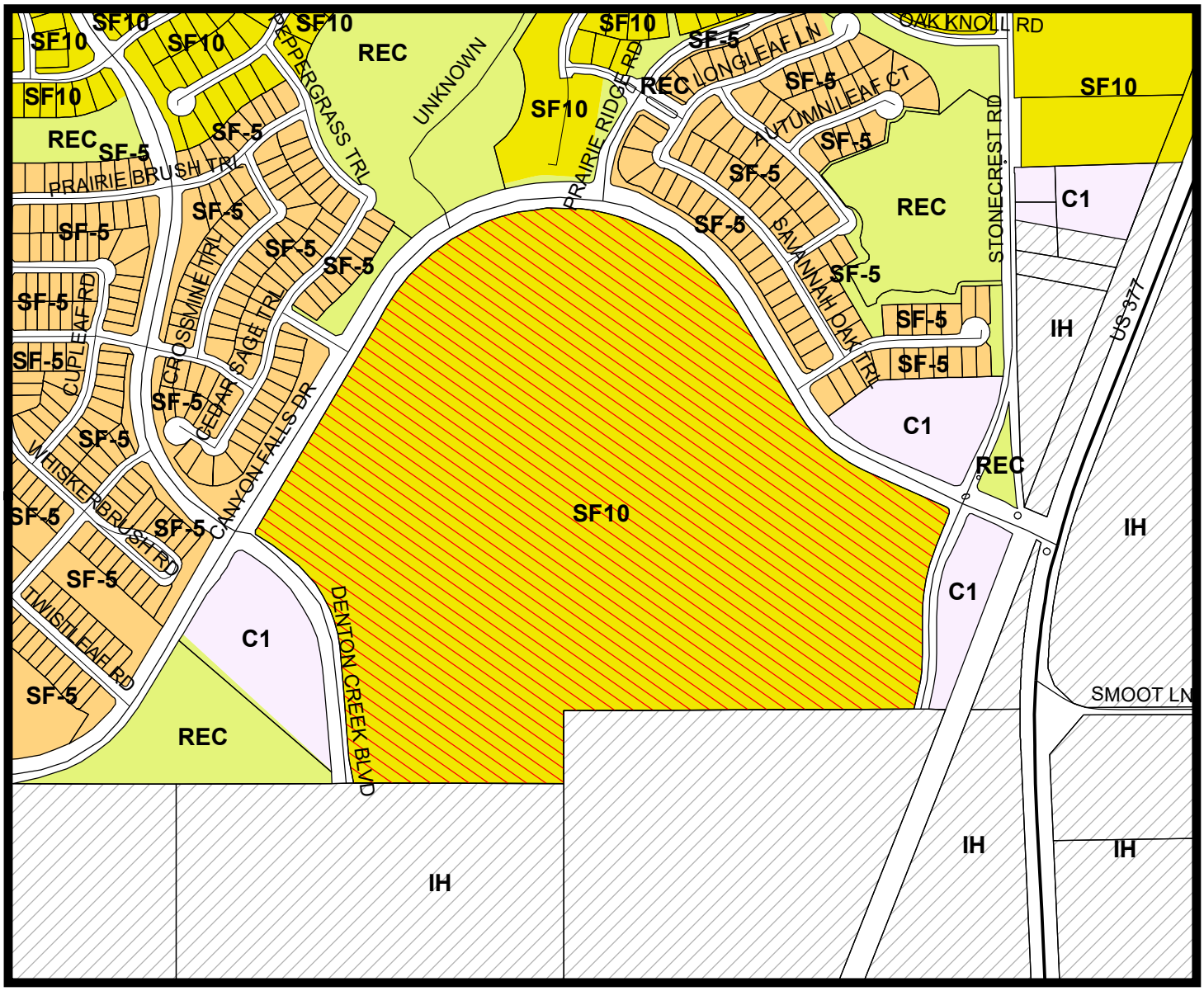
III. ATTACHMENTS

A. Background Information
1. Vicinity Map
2. Letter of Intent

B. Application Details
1. Site Plan Package

Vicinity Map

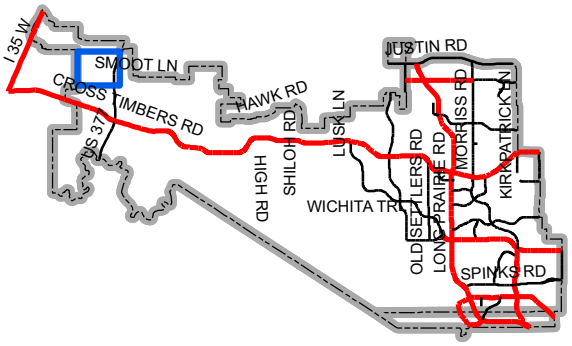
Reference Project: SP20-0013



LEGEND

Commercial 1 | Interim Holding | Recreation | Single Family 5 | Single Family 10

Subject Property



Map Location

0 500 1,000 2,000 Feet

MORE THAN ARCHITECTS

December 8, 2020

Claire Barnes
Town of Flower Mound
2121 Cross Timbers Road
Flower Mound, TX 75028

Re: Argyle ISD
Project Name: New Administration Building
Project Address: NE corner of Denton Creek Blvd and Canyon Falls Drive

Dear Ms. Barnes,

Huckabee and Associates, Inc. is submitting a Site Plan Application for a new Argyle ISD Administration Building.

This project sits on 5.47 acres at the southwest corner of the 170.015-acre AISD property that is home to the existing Middle School and future High School which is zoned SF-10 (PD98). The new Argyle ISD Administration Building is a 16,700 square foot office building that will be used for the operations of AISD and house the Board Meetings and functions for AISD. The design of this project is directly related to the existing school that is sharing the site and will have the same finishes and similar design elements.

Construction for this project will be a single phase and last from November 2020 to September 2021.

AISD will be requesting the following variance:

- A variance to Section IV, Storm Water Improvements, Chapter 32 – Engineering Design Criteria and Construction Standards, to use an open channel storm sewer. Further project site expansion in the future will include enclosing the channel in an enclosed storm drain system.

Thank you,

Crystal Vasquez
Lead Regulatory Administrator

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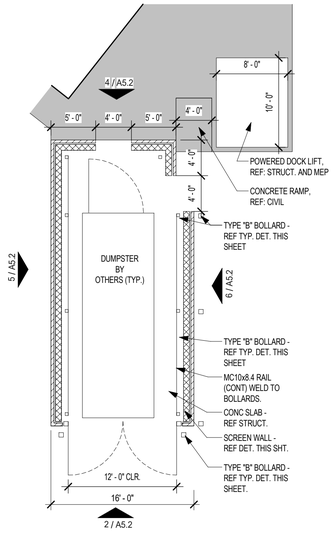


2 ENLARGED DUMPSTER PLAN - BRICK & CMU
1/8" = 1'-0"

PHYSICAL ADDRESS:	6001 CANYON FALLS DRIVE, FLOWER MOUND, TX 76226		
GROSS AREA:	107.015 ACRES		
NET SITE AREA:	5.47 ACRES AT SOUTHWEST CORNER OF PREVIOUSLY PLATTED 106.922 ACRES		
ZONING:	SF-10 (PD 98)		
CURRENT USE:	ARGYLE ISD		
LOT COVERAGE DATA			
BUILDING COVERAGE:	HIGH SCHOOL	285,533 SF	6.13%
	ADMINISTRATION	16,697 SF	0.4%
	TOTAL	302,330 SF	6.53%
IMPERVIOUS AREA:	HIGH SCHOOL	1,102,882 SF	23.68%
	ADMINISTRATION	58,166 SF	0.12%
	TOTAL	1,161,048 SF	23.8%
PERVIOUS AREA:	HIGH SCHOOL	3,554,659 SF	76.32%
	ADMINISTRATION	INCLUDED IN HS	
	TOTAL	3,718,049 SF	76.32%

SITE DATA TABLE

PARKING SUMMARY:

REQUIRED SPACES

HIGH SCHOOL:	776 SPACES
TOTAL:	776 SPACES

PROVIDED SPACES

HIGH SCHOOL:	780 SPACES
ADMINISTRATION BUILDING:	84 SPACES
TOTAL:	864 SPACES

10 % DEVIATION

BUILDING DATA (ADMINISTRATION BUILDING ONLY):

BUILDING:	1 STORY
PEAK HEIGHT:	26' - 4"
MEAN HEIGHT:	22' - 2"
TOTAL SQUARE FOOTAGE:	16,697 SQUARE FEET

SITE DATA TABLE

AS OBTAINED FROM CITY ORDINANCE, LAND DEVELOPMENT CODE, SECTION 82-74, THE REQUIRED NUMBER OF OFF STREET PARKING SPACES IS DETERMINED AS FOLLOWS:

1 SPACE PER CLASSROOM/INSTRUCTION AREA + 1 SPACE PER 3 STUDENTS ACCOMODATED (HIGH SCHOOL, COLLEGE OR UNIVERSITY)

TOTAL NUMBER OF CLASSROOMS:	193
TOTAL NUMBER OF STUDENTS:	1,750
ADMINISTRATION AREA:	16,697 SF

REQUIRED SPACES

HIGH SCHOOL:	776 SPACES
TOTAL:	776 SPACES

PROVIDED SPACES

HIGH SCHOOL:	780 SPACES
ADMINISTRATION BUILDING:	84 SPACES
TOTAL:	864 SPACES

10 % DEVIATION

PARKING REQUIREMENTS

1) ALL RETAINING/DETAINING WALLS, TURN-DOWN CURBS, TREE RETAINING WALLS SHALL BE CLAD IN A MATERIAL TO MATCH THE MATERIALS ON THE MAIN BUILDING.

2) OR ALL RETAINING/DETAINING WALLS, TURN-DOWN CURBS, TREE RETAINING WALLS SHALL BE CLAD IN A MATERIAL TO COMPLEMENT THE MATERIALS AND COLORS WITHIN THIS DEVELOPMENT.

3) ALL GROUND BASED HVAC SHALL BE SCREENED WITH LIVE SCREENING OR MASONRY ENCLOSURE. MASONRY ENCLOSURE SHALL BE CLAD IN THE SAME MATERIAL AS THE MAIN BUILDING.

4) ALL ROOF-MOUNTED MECHANICAL UNITS AND/OR EQUIPMENT SHALL BE SCREENED FROM VIEW.

5) DUMPSTER SCREENING WALL SHALL BE CLAD IN A MATERIAL TO MATCH THE MATERIALS ON THE MAIN BUILDING.

6) DUMPSTER SCREENING WALL REQUIRES A SEPARATE BUILDING PERMIT.

7) SIGNS REQUIRE A SEPARATE BUILDING PERMIT. ANY SIGNS DEPICTED ON THE SUBJECT SITE PLAN/ELEVATIONS ARE NOT APPROVED AS A PART OF THIS REVIEW AND MUST COMPLY WITH ALL APPLICABLE TOWN REGULATIONS

GENERAL NOTES

PROPERTY DESCRIPTION

1) OWNER INFORMATION

A. NAME : ARGYLE ISD
B. ADDRESS: 800 EAGLE DRIVE, ARGYLE, TX 76226

2) PROPERTY INFORMATION

A. NAME: ADMINISTRATION BUILDING
B: ADDRESS: NE CORNER OF CANYON FALLS DR. AND DENTON CREEK BLVD.
FLOWER MOUND, TX 76226

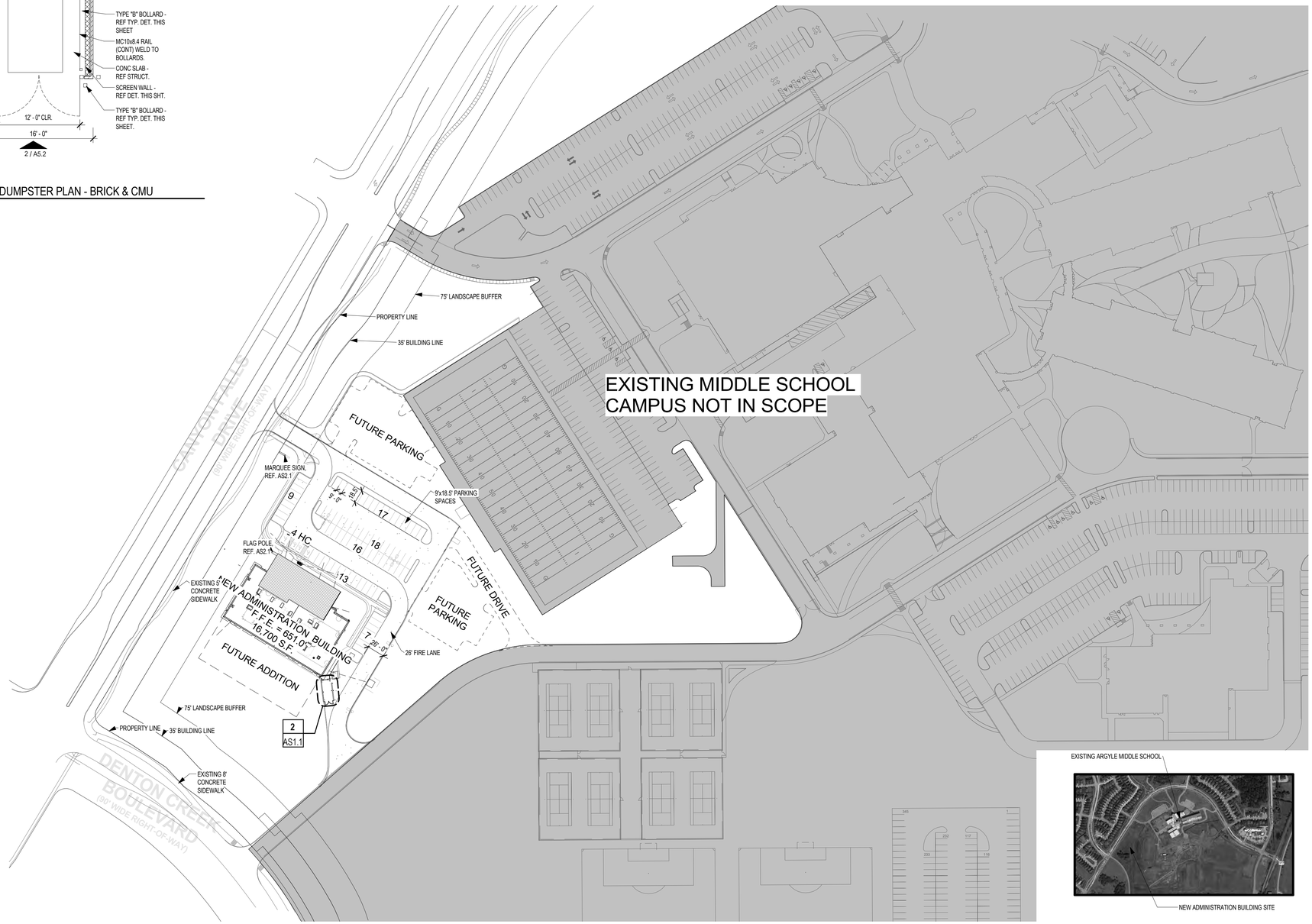
3) LEGAL DESCRIPTION

NEW ARGYLE ISD ADMINISTRATION BUILDING

4) ZONING INFORMATION

A. CATEGORY: SF10
B: TRANSLATED CATEGORY: SINGLE FAMILY / RESIDENTIAL
C. ORDINANCE NUMBER: 58-12

GENERAL SITE NOTES



1 SITE PLAN - P&Z
1" = 80'-0"

N
TRUE

1) ALL SITE INFORMATION INCLUDING, BUT NOT LIMITED TO, PROPERTY LINES, METES & BOUNDS, CONTOURS, EXISTING BUILDINGS, EASEMENTS, TREES, WALKS, DRIVES, FENCES, ETC., TAKEN FROM SURVEY BY:

PACHECO KOCH CONSULTING ENGINEERING
4060 BRYANT IRVIN ROAD
FORT WORTH, TX 76109
PHONE (817) 412-7155

2) HUCKABEE AND ASSOCIATES, INC. ALONG WITH THEIR CONSULTANTS HAVE LOCATED, SHOWN , AND NOTED EXISTING SITE FEATURES INCLUDING BUT NOT LIMITED TO PROPERTY LINES, METES AND BOUNDS, GRADE CONTOURS, EXISTING STRUCTURES, EASEMENTS, TREES, FENCES, ROADWAYS, OVERHEAD AND UNDERGROUND UTILITIES, AND OTHER EXISTING FEATURES TO THE BEST OF OUR ABILITY BASED UPON OWNER PROVIDED SURVEYS, EXISTING CONSTRUCTION DOCUMENTS AND OTHER EXISTING DATA COLLECTION IN REGARDS TO THE SPECIFIED SITE. HUCKABEE AND ASSOCIATES, INC. NOR THEIR CONSULTANTS SHALL ASSUME ANY RESPONSIBILITY OR LIABILITIES IN REGARD TO THE ACCURACY OF THE ABOVE MENTIONED OWNER PROVIDED DATA.

3) IF THE CONTRACTOR FINDS ANY DISCREPANCY BETWEEN EXISTING CONDITIONS AND THOSE WHICH ARE SHOWN ON THE PLANS, HE SHALL IMMEDIATELY CONTACT THE ARCHITECT.

4) THE CONTRACTOR SHALL MAKE ARRANGEMENTS WITH ALL UTILITY ENTITIES TO LOCATE AND MARK ALL UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION.

5) THE CONTRACTOR SHALL VISIT THE SITE AND BECOME FAMILIAR WITH ALL EXISTING CONDITIONS.

6) REF. SHEET AS2.1 FOR DETAILS AND OTHER SITE IMPROVEMENT DETAILS.

7) FINISH GRADE AT PERIMETER OF THE BUILDING SHALL BE AS SHOWN ON SITE GRADING PLAN. REF. CIVIL DRAWINGS. SITE GRADES SHALL SLOPE UNIFORMLY AWAY FROM THE BUILDING AND INTERSECT WITH ELEVATIONS SHOWN.

8) REF. CIVIL DRAWINGS FOR ALL SITE DIMENSIONS

9) MAKE ALL SLOPES OF WALKS AND DRIVES COMPLY WITH FINISH ELEVATION SHOWN ON CIVIL DRAWINGS. THE LINE OF SLOPE SHALL FORM STRAIGHT LINES BETWEEN FINISH ELEVATIONS WHEN POSSIBLE AND GRADING CONTOURS WHEN STRAIGHT LINES ARE NOT POSSIBLE. VERIFY ALL ELEVATIONS AND DIMENSIONS WITH ARCHITECT ON JOB. REF. CIVIL.

10) ALL WALKS AND PLAZAS SHALL BE REINFORCED CONCRETE - REF. CIVIL FOR DETAILS. PROVIDE 1/2" EXPANSION JOINT AS SHOWN BY CIVIL OR AT 25'-0" O.C. MAX. AND AT ALL INSIDE CORNERS. PROVIDE TOOLED CONTROL JOINTS AT 5'-0" O.C.B.W. MAX OR AS SHOWN. SEE CIVIL FOR TYPICAL WALK AND JOINT DETAILS.

11) PROVIDE 1/2" EXPANSION JOINT ALONG BUILDING FOUNDATION OR BRICK WHERE CONCRETE WALK IS PRESENT. REF. CIVIL DRAWINGS FOR TYPICAL DETAIL.

12) PROVIDE 1/2" EXPANSION JOINT ALONG BACK OF CONCRETE CURB WHERE WALK IS PRESENT. REF. CIVIL DRAWINGS FOR CURB DETAILS

13) CONTRACTOR SHALL REMOVE ALL EXISTING OBSTRUCTIONS TO NEW CONSTRUCTION, PAVING, WALKS, AND ALL OTHER SITE IMPROVEMENTS INCLUDING BUT NOT LIMITED TO EXISTING TREES, FENCES, CONCRETE, ROCKS, DEBRIS, POSTS, VEGETATION, UTILITIES (AS NOTED), AND OTHER ITEMS AS NOTED FOR CONSTRUCTION.

14) REF. ELECTRICAL DRAWINGS FOR OUTDOOR LIGHTING REQUIREMENTS.

15) REF. CIVIL DRAWINGS FOR SITE GRADING PLAN, SITE UTILITY PLAN (INCLUDING FIRE HYDRANT LOCATIONS), EROSION CONTROL PLANS, AND CURB AND PAVING REQUIREMENTS AND DETAILS.

16) REF. CIVIL SHEETS FOR SITE GRADING CONTOURS. CONTRACTOR SHALL MAKE ALL CUTS AND FILLS REQUIRED TO ACCOMPLISH ALL WORK SHOWN. GRADE SITE TO TOLERANCES SPECIFIED.

17) REF. CIVIL DRAWINGS FOR THICKNESS AND LOCATIONS OF ALL TYPES OF PAVING.

18) FIRE LANE STRIPING SHALL COMPLY WITH CITY OF FLOWER MOUND REQUIREMENTS AND NFPA.

19) REFER TO SPECIFICATIONS / PROJECT MANUAL FOR ADDITIONAL INFORMATION AND REQUIREMENTS.

20) FUTURE PARKING, FUTURE DRIVE AND FUTURE ADDITION ARE NOT PART OF SP20-0013 AND WILL REQUIRE A SEPARATE SITE PLAN SUBMITTIAL.

GENERAL SITE NOTES

Revision / Date

Project:

A NEW ADMINISTRATION BUILDING
FOR
ARGYLE I.S.D.
FLOWER MOUND, TEXAS

FOR THE PURPOSES OF PERMITTING

REGISTERED ARCHITECT JOSHUA CORBURN 28433 STATE OF TEXAS

12.08.2020

Huckabee
AUSTIN • DALLAS • FORT WORTH
HOUSTON • SAN ANTONIO • WACO
www.huckabee-inc.com
800.6871229

P&Z - SITE PLAN

Job. No. 01861-01-01	Sheet No. BID & PERMIT AS1.1
Drawn By: cm	
Date: 07.09.2020	

C:\Users\cmason\Documents\Argyle ISD New Admin - V19_cameron.mason.huckabee.rvt

LANDSCAPE TABULATIONS - CHAPTERS 82 & 94 (FLOWER MOUND) - ARGYLE ISD ADMIN. BUILDING

STREET YARD LANDSCAPING			
STANDARD	STREET YARD SF	REQUIRED	PROVIDED
MIN. 20% SHALL BE LANDSCAPED	42,083 SF	42,083x20%=8,417 8,417 SF (20%)	22,434 SF
STREET YARD TREES			
STANDARD	STREET YARD SF	REQUIRED	PROVIDED
FOR STREET YARD BETWEEN 10,000 AND 50,000 SF, 10 TREES SHALL BE REQUIRED FOR THE FIRST 10,000 SF PLUS 1 ADDITIONAL TREE SHALL BE REQUIRED FOR EACH 2,500 SF	42,083 SF	10+(42,083-10,000)/2,500=22.83 23 TREES	3 EXISTING TREES 23 PROPOSED TREES 23 TREES IN TOTAL
NOTE: TREES REQUIRED TO SATISFY OTHER PROVISIONS OF LANDSCAPING REQUIREMENTS AND LYING WITHIN THE STREET YARD MAY BE USED TO SATISFY THE REQUIREMENTS OF THIS SECTION			
STREET BUFFER LANDSCAPING			
STANDARD		REQUIRED	PROVIDED
CANYON FALLS DRIVE		75 LF	75 LF LANDSCAPE BUFFER
DENTON CREEK BLVD		75 LF	75 LF LANDSCAPE BUFFER
STREET BUFFER TREES			
STANDARD	TOTAL STREET BUFFER ZONE	REQUIRED	PROVIDED
CANYON FALLS DRIVE 1 TREE PER 30 LF	500 LF	500/30=16.6 17 TREES	17 TREES
DENTON CREEK BLVD 1 TREE PER 30 LF	300 LF	300/30=10 10 TREES	10 TREES
NOTE: STREET BUFFER TREES SHALL BE A MINIMUM OF THREE-INCH CAL PER			
PARKING AREA LANDSCAPING			
STANDARD	NUMBER OF PARKING SPACES	REQUIRED	PROVIDED
45 SF PER 12 SPACES	84	45/12*84=315 315 SF	3,179 SF
NOTE: SCHOOLS SHALL BE REQUIRED TO PROVIDE LANDSCAPED AREAS AT A MINIMUM RATIO OF 45 SF PER 12 PARKING SPACES			
PARKING AREA TREES			
STANDARD	NUMBER OF PARKING SPACES	REQUIRED	PROVIDED
1 PER 20 PARKING SPACES	84	84/20=4.2 5 TREES	5 TREES
NOTE: ALL PARKING AREA TREES ARE REQUIRED TO BE MINIMUM THREE-INCH CALIPER AND ALL PARKING SPACES MUST BE LOCATED WITHIN 100' FROM A TREE			

1 SITE PLAN: PLANTING
1" = 20'-0"

IRRIGATION NOTES

1. ALL PROPOSED PLANT MATERIAL WILL BE IRRIGATED WITH A PERMANENT IRRIGATION SYSTEM

PLANTING GENERAL NOTES

1. ALL PLANTS SHALL BE SET OUT FOR APPROVAL BY THE OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.
2. FINE GRADING SHALL BE PERFORMED IN ALL AREAS TO BE LANDSCAPED. FINE GRADING SHALL INCLUDE THE REMOVAL OF DEBRIS, ROCKS, ETC. FROM THE SITE AND INSURE POSITIVE DRAINAGE IN ALL AREAS.
3. THE CONTRACTOR SHALL LOCATE ALL UTILITIES AND EASEMENTS IN THE FIELD PRIOR TO COMMENCEMENT OF WORK. CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO UTILITIES DURING THE COURSE OF CONSTRUCTION.
4. WRITTEN DIMENSIONS SHALL GOVERN OVER SCALED DIMENSIONS.
5. IT IS PREFERABLE THAT NO TREE BE STAKED. HOWEVER, CONDITIONS AND PLANT MATERIAL SIZE MAY NECESSITATE STAKING. THE OWNER'S REP SHALL DETERMINE IF SUPPORT IS NEEDED AND SHALL DIRECT THE CONTRACTOR ACCORDINGLY.
6. THE CONTRACTOR SHALL REFER TO THE SPECIFICATIONS FOR ADDITIONAL INFORMATION AND REQUIREMENTS ASSOCIATED WITH THE LANDSCAPE AND ACCESSORIES.
7. ALL PLANT MATERIALS SHALL MEET ANSI Z60.1 STANDARDS FOR CALIPER, HEIGHT AND ROOT BALL SIZE. ANY MATERIALS THAT DO NOT MEET OR EXCEED SUCH STANDARDS SHALL BE REJECTED AND REPLACED AT THE CONTRACTOR'S EXPENSE.
8. BALLED AND BURLAPPED TREES SHALL HAVE THE TOP HALF OF THE WIRE BASKET REMOVED. THE BURLAP SHALL BE REMOVED TO THE GREATEST EXTENT POSSIBLE, USING A KNIFE TO CUT AND REMOVE THE BOTTOM HALF UNDER THE WIRE BASKET THAT REMAINS.
9. QUANTITIES ARE SHOWN FOR CONVENIENCE ONLY. CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL QUANTITIES
10. LIMITS OF SOD ARE BASED UPON THE GRADING PLAN AND ARE APPROXIMATE. CONTRACTOR IS RESPONSIBLE TO ESTABLISH SOD IN ALL AREAS DISTURBED BY CONSTRUCTION ACTIVITIES AT NO ADDITIONAL COST TO THE OWNER.

0 10 20 40 60
GRAPHIC SCALE IN FEET

PLANT SCHEDULE ARGYLE ADMIN BUILDING

TREES	CODE	BOTANICAL / COMMON NAME
	ET	EXISTING TREE (PROPOSED) MIDDLE SCHOOL ADDITION
	UC2	ULMUS CRASSIFOLIA CEDAR ELM
SHRUBS	**CODE**	**BOTANICAL / COMMON NAME**
	HP	HESPERALOE PARVIFLORA RED YUCCA
	MYP	MYRICA PUSILLA DWARF SOUTHERN WAX MYRTLE
	SW2	SALVIA GREGGII `WHITE` WHITE AUTUMN SAGE
	SBA	SPIRAEA X BUMALDA `ANTHONY WATERER` ANTHONY WATERER SPIRAEA
CACTI/SUCCULANTS	**CODE**	**BOTANICAL / COMMON NAME**
	YC	YUCCA FILAMENTOSA `COLOR GUARD` ADAM'S NEEDLE
HARDSCAPE	**CODE**	**BOTANICAL / COMMON NAME**
	4C	4" - 8" COBBLE
SOD/SEED	**CODE**	**BOTANICAL / COMMON NAME**
	CD	CYNODON DACTYLON BERMUDA GRASS

REFERENCE NOTES SCHEDULE ARGYLE ADMIN BUILDING

SYMBOL	DESCRIPTION
1	CONCRETE MOW CURB
2	STEEL EDGING

REGISTERED LANDSCAPE ARCHITECT
CHRISTOPHER J. TATTON
2969
STATE OF TEXAS

12/07/2020

NO.	DATE	REVISION

Pacheco Koch
4060 BRYANT IRVIN ROAD
FORT WORTH, TX 76109 817.412.7155
TX REG. ENGINEERING FIRM F-469
TX REG. SURVEYING FIRM LS-10008001

PLANTING PLAN
NEW ADMINISTRATION BUILDING
FOR
ARGYLE I.S.D.
CITY OF FLOWER MOUND, DENTON COUNTY, TEXAS

DESIGN	DRAWN	DATE	SCALE	NOTES	FILE	NO.
CJT	AJW	JULY 2020	AS SHOWN			L2.01

PK FILE: 4645-20.268

ARGYLE ISD-ADMINISTRATION BUILDING

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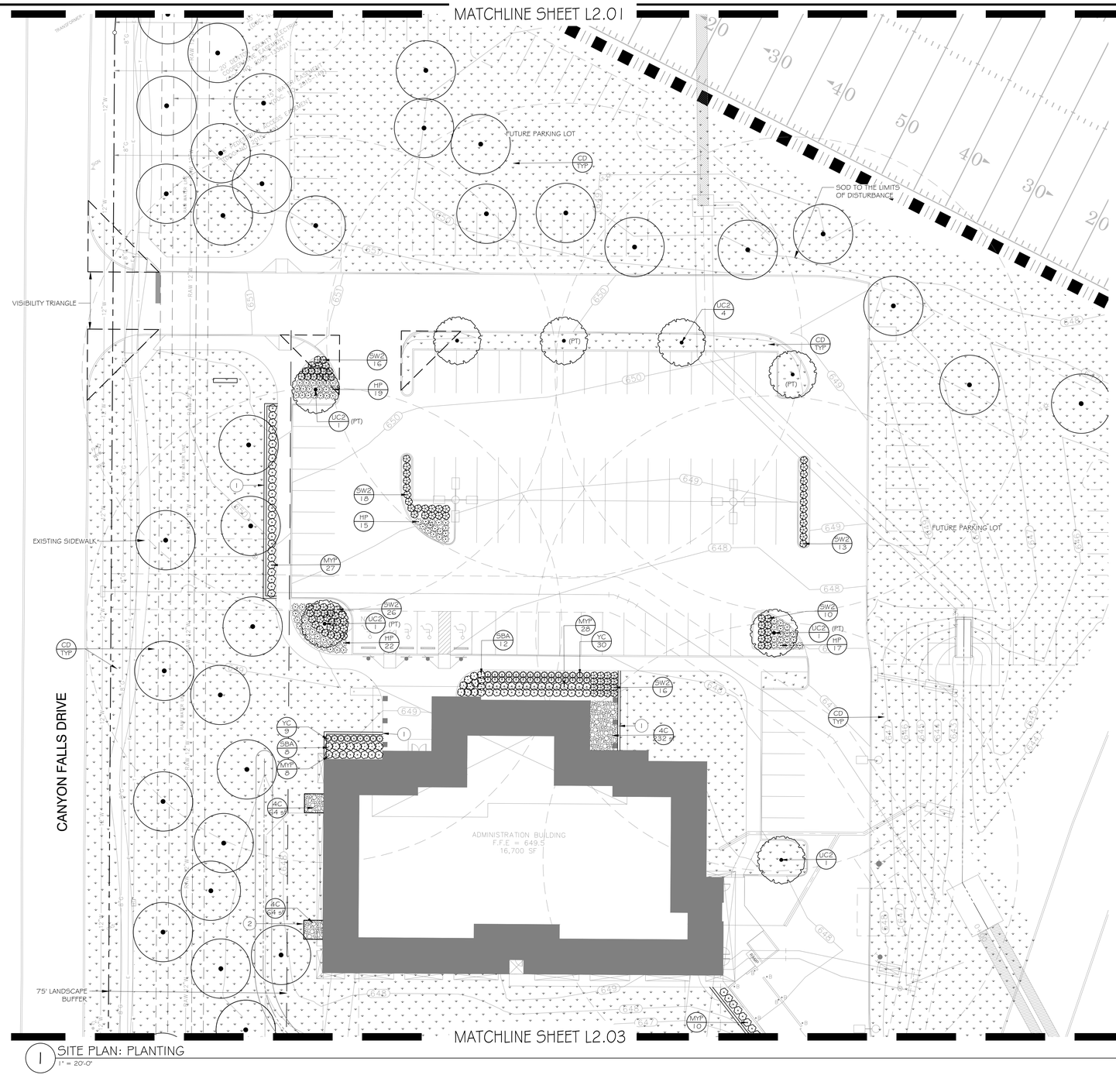

1 SITE PLAN: PLANTING
1" = 20'-0"

0 10 20 40 60
GRAPHIC SCALE IN FEET

PLANT SCHEDULE ARGYLE ADMIN BUILDING

TREES	CODE	BOTANICAL / COMMON NAME
	ET	EXISTING TREE (PROPOSED) MIDDLE SCHOOL ADDITION
	UC2	ULMUS CRASSIFOLIA CEDAR ELM

SHRUBS	CODE	BOTANICAL / COMMON NAME
	HP	HESPERALOE PARVIFLORA RED YUCCA
	MYP	MYRICA PUSILLA DWARF SOUTHERN WAX MYRTLE
	SW2	SALVIA GREGGII `WHITE` WHITE AUTUMN SAGE
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CACTI/SUCCULANTS	CODE	BOTANICAL / COMMON NAME
	YC	YUCCA FILAMENTOSA `COLOR GUARD` ADAM`S NEEDLE

HARDSCAPE	CODE	BOTANICAL / COMMON NAME
	4C	4" - 8" COBBLE

SOD/SEED	CODE	BOTANICAL / COMMON NAME
	CD	CYNODON DACTYLON BERMUDA GRASS

REFERENCE NOTES SCHEDULE ARGYLE ADMIN BUILDING

SYMBOL	DESCRIPTION
1	CONCRETE MOW CURB
2	STEEL EDGING

REGISTERED LANDSCAPE ARCHITECT
CHRISTOPHER J. TAYLOR
2969
STATE OF TEXAS
11/17/2020

NO.	DATE	REVISION

Pacheco Koch
4060 BRYANT IRVIN ROAD
FORT WORTH, TX 76109 817.412.7155
TX REG. ENGINEERING FIRM F-469
TX REG. SURVEYING FIRM LS-10008001

PLANTING PLAN
NEW ADMINISTRATION BUILDING
FOR
ARGYLE I.S.D.
CITY OF FLOWER MOUND, DENTON COUNTY, TEXAS

DESIGN	DRAWN	DATE	SCALE	NOTES	FILE	NO.
CJT	AJW	JULY 2020	AS SHOWN			L2.02

PK FILE: 4645-20.268

ARGYLE ISD-ADMINISTRATION BUILDING

Revision /	Date
ADDENDA 1 – SHEET RE-ISSUED	07/24/2020
CITY COMMENTS – SHEET RE-ISSUED	09/15/2020
CITY COMMENTS – SHEET RE-ISSUED	11/17/2020

Project:

NEW ADMINISTRATION BUILDING
FOR
ARGYLE I.S.D.
FLOWER MOUND, TEXAS

Pacheco Koch
4060 BRYANT IRVIN ROAD
FORT WORTH, TX 76109 • 817.412.7155
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PLANTING PLAN

Job No.	Sheet No.
01661-01-01	L2.02
Drawn By: AJW	
Date: 07.07.2020	

PK FILE: 4645-20.268

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1 SITE PLAN: PLANTING
1" = 20'-0"

0 10 20 40 60
GRAPHIC SCALE IN FEET

PLANT SCHEDULE ARGYLE ADMIN BUILDING

TREES	CODE	BOTANICAL / COMMON NAME
	ET	EXISTING TREE (PROPOSED) MIDDLE SCHOOL ADDITION
	UC2	ULMUS CRASSIFOLIA CEDAR ELM

SHRUBS	CODE	BOTANICAL / COMMON NAME
	HP	HESPERALOE PARVIFLORA RED YUCCA
	MYP	MYRICA PUSILLA DWARF SOUTHERN WAX MYRTLE
	SW2	SALVIA GREGGII `WHITE` WHITE AUTUMN SAGE
	SBA	SPIRAEA X BUMALDA `ANTHONY WATERER` ANTHONY WATERER SPIRAEA

CACTI/SUCCULANTS	CODE	BOTANICAL / COMMON NAME
	YC	YUCCA FILAMENTOSA `COLOR GUARD` ADAM`S NEEDLE

HARDSCAPE	CODE	BOTANICAL / COMMON NAME
	4C	4" - 8" COBBLE

SOD/SEED	CODE	BOTANICAL / COMMON NAME
	CD	CYNODON DACTYLON BERMUDA GRASS

REFERENCE NOTES SCHEDULE ARGYLE ADMIN BUILDING

SYMBOL	DESCRIPTION	QTY	DETAIL
1	CONCRETE MOW CURB	200 LF	6/L2.04
2	STEEL EDGING	48 LF	4/L2.04

REGISTERED LANDSCAPE ARCHITECT CHRISTOPHER J. ANTTONEN 2965 STATE OF TEXAS
11/17/2020

NO.	DATE	REVISION

Pacheco Koch
4060 BRYANT IRVIN ROAD
FORT WORTH, TX 76109 817.412.7155
TX REG. ENGINEERING FIRM F-469
TX REG. SURVEYING FIRM LS-10008001

PLANTING PLAN
NEW ADMINISTRATION BUILDING
FOR
ARGYLE I.S.D.
CITY OF FLOWER MOUND, DENTON COUNTY, TEXAS

DESIGN	DRAWN	DATE	SCALE	NOTES	FILE	NO.
CJT	AJW	JULY 2020	AS SHOWN			L2.03

PK FILE: 4645-20.268

ARGYLE ISD-ADMINISTRATION BUILDING

Revision /	Date	
ADDENDA 1	07/24/2020	
CITY COMMENTS	09/15/2020	
CITY COMMENTS - SHEET RE-ISSUED	11/17/2020	

Project:
NEW ADMINISTRATION BUILDING
FOR
ARGYLE I.S.D.
FLOWER MOUND, TEXAS

Pacheco Koch
4060 BRYANT IRVIN ROAD
FORT WORTH, TX 76109 +817.412.7155
TX REG. ENGINEERING FIRM F-469
TX REG. SURVEYING FIRM LS -10008001
TX REG. ARCHITECTURAL FIRM BR 2430

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PLANTING PLAN

Job No.	Sheet No.
01861-01-01	L2.03
Drawn By: AJW	
Date: 07.07.2020	

PK FILE: 4645-20.268

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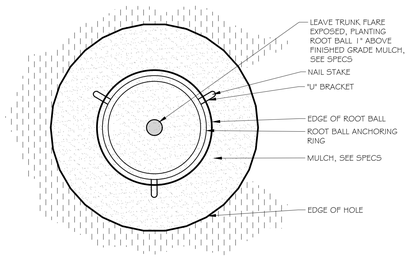
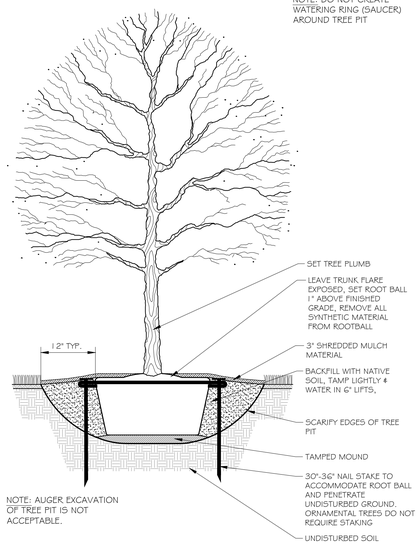


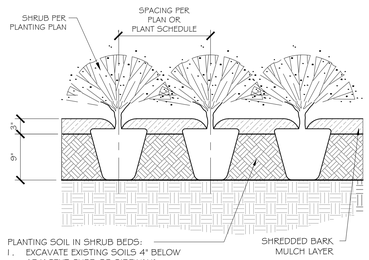
NOTE: DO NOT CREATE WATERING RING (SAUCER) AROUND TREE PIT



NOTE: AUGER EXCAVATION OF TREE PIT IS NOT ACCEPTABLE.

1 CANOPY TREE W/ UNDERGROUND STAKES

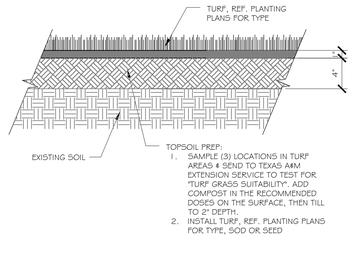
3/4" = 1'-0"



PLANTING SOIL IN SHRUB BEDS:
1. EXCAVATE EXISTING SOILS 4" BELOW ADJACENT CURB OR SIDEWALK
2. ADD 3" COMPOST & TILL INTO 6" EXISTING SOILS, CREATING 9" PLANTING SOIL
3. ADD 3" MULCH AFTER PLANTING

2 TYP. SHRUB PLANTING

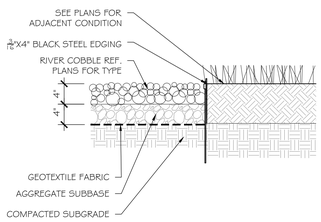
1" = 1'-0"



TOPSOIL PREP:
1. SAMPLE (3) LOCATIONS IN TURF AREAS & SEND TO TEXAS A&M EXTENSION SERVICE TO TEST FOR "TURF GRASS SUITABILITY". ADD COMPOST IN THE RECOMMENDED DOSES ON THE SURFACE, THEN TILL TO 2" DEPTH.
2. INSTALL TURF, REF. PLANTING PLANS FOR TYPE, SOD OR SEED

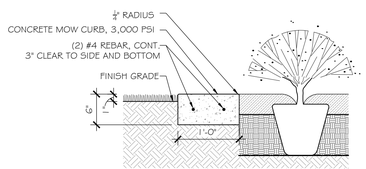
3 TURF OR SEED TOPSOIL PROFILE

1 1/2" = 1'-0"



4 RIVER COBBLE

1" = 1'-0"



NOTE: CONTROL JOINTS @ 10' O.C.
SEALED EXPANSION JOINTS @ 30' O.C.

6 12" CONCRETE MOW CURB

1" = 1'-0"

PLANT SCHEDULE ARGYLE ADMIN BUILDING

TREES	CODE	QTY	BOTANICAL / COMMON NAME	SIZE/COND.		REMARKS
	ET		EXISTING TREE (PROPOSED) MIDDLE SCHOOL ADDITION	EXISTING		
	UC2	8	ULMUS CRASSIFOLIA CEDAR ELM	3" CALIPER MIN.		MATCHED, WELL BRANCHED, STRONG CENTRAL LEADER
SHRUBS	**CODE**	**QTY**	**BOTANICAL / COMMON NAME**	**SIZE**	**SPACING**	**REMARKS**
	HP	73	HESPERALOE PARVIFLORA RED YUCCA	3 GAL	36" o.c.	NURSERY GROWN, MATCHED & WELL ROOTED, PLANT AS SHOWN, NO BROKEN SPINES
	MYP	73	MYRICA PUSILLA DWARF SOUTHERN WAX MYRTLE	7 GAL	39" o.c.	FULL TO 36" FOR SCREENING, MATCHING
	SW2	99	SALVIA GREGGII `WHITE` WHITE AUTUMN SAGE	3 GAL	36" o.c.	FULL, MATCHING
	SBA	20	SPIRAEA X BUMALDA `ANTHONY WATERER` ANTHONY WATERER SPIRAEA	3 GAL	39" o.c.	FULL, MATCHING
CACTI/SUCCULANTS	**CODE**	**QTY**	**BOTANICAL / COMMON NAME**	**SIZE**	**SPACING**	**REMARKS**
	YC	39	YUCCA FILAMENTOSA `COLOR GUARD` ADAM'S NEEDLE	3 GAL	36" o.c.	FULL, MATCHING
HARDSCAPE	**CODE**	**QTY**	**BOTANICAL / COMMON NAME**	**SIZE**	**SPACING**	**REMARKS**
	4C	360 SF	4" - 8" COBBLE	NONE		BRAZOS RIVER ROCK, WHIZ-Q STONE, OR APPROVED EQUAL
SOD/SEED	**CODE**	**QTY**	**BOTANICAL / COMMON NAME**	**SIZE**	**SPACING**	**REMARKS**
	CD	143,692 SF	CYNODON DACTYLON BERMUDA GRASS	SOD		SOLID, ROLLED TIGHT, SAND FILLED JOINTS, 100% WEED, PEST AND DISEASE FREE

REFERENCE NOTES SCHEDULE ARGYLE ADMIN BUILDING

SYMBOL	DESCRIPTION	QTY	DETAIL
1	CONCRETE MOW CURB	200 LF	6/L2.04
2	STEEL EDGING	48 LF	4/L2.04

REGISTERED LANDSCAPE ARCHITECT
CHRISTOPHER J. TAYLOR
2969
STATE OF TEXAS
11/17/2020

NO.	DATE	REVISION

Pacheco Koch
4060 BRYANT IRVIN ROAD
FORT WORTH, TX 76109 817.412.7155
TX REG. ENGINEERING FIRM F-469
TX REG. SURVEYING FIRM LS-10008001

PLANTING DETAILS

NEW ADMINISTRATION BUILDING

FOR

ARGYLE I.S.D.

CITY OF FLOWER MOUND, DENTON COUNTY, TEXAS

DESIGN	DRAWN	DATE	SCALE	NOTES	FILE	NO.
CJT	AJW	JULY 2020	AS SHOWN			L2.04

PK FILE: 4645-20.268

ARGYLE ISD-ADMINISTRATION BUILDING

Revision /	Date
ADDENDA 1	07/24/2020
CITY COMMENTS	09/01/2020
CITY COMMENTS	11/17/2020

Project:

NEW ADMINISTRATION BUILDING
FOR
ARGYLE I.S.D.
FLOWER MOUND, TEXAS

Pacheco Koch
4060 BRYANT IRVIN ROAD
FORT WORTH, TX 76109 • 817.412.7155
TX REG. ENGINEERING FIRM F-469
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PLANTING DETAILS

Job No. 01861-01-01	Sheet No. L2.04
Drawn By: AJW	
Date: 07.07.2020	

PK FILE: 4645-20.268

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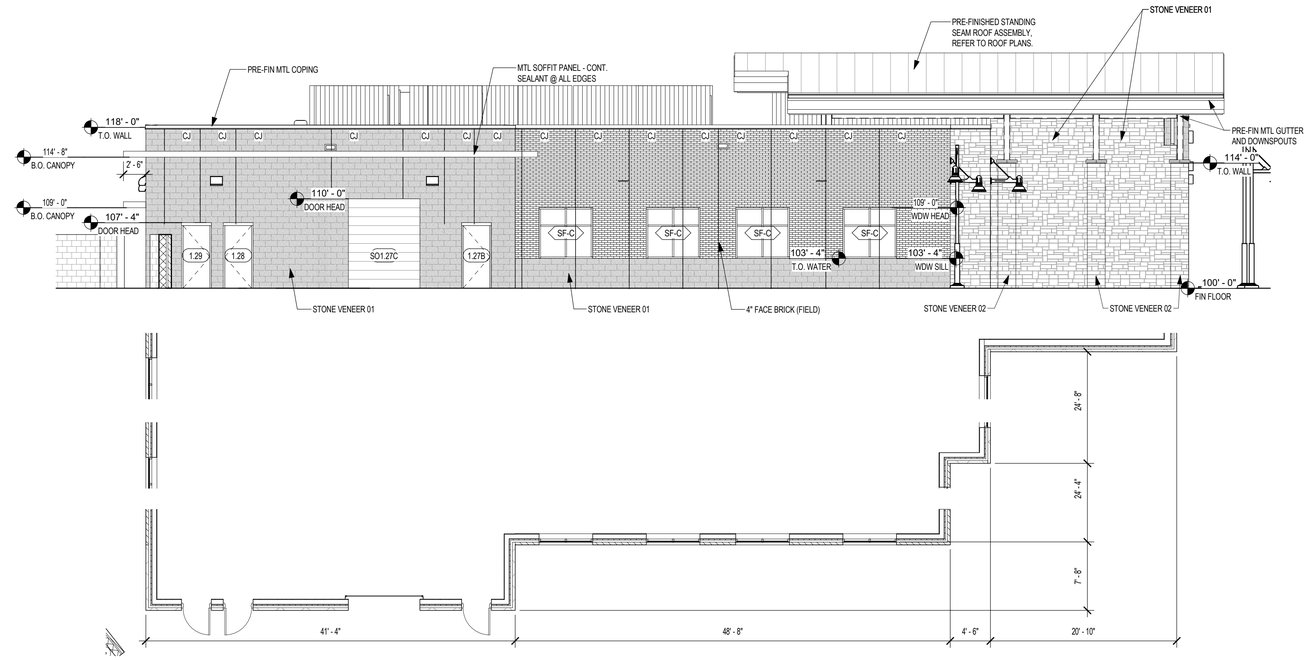
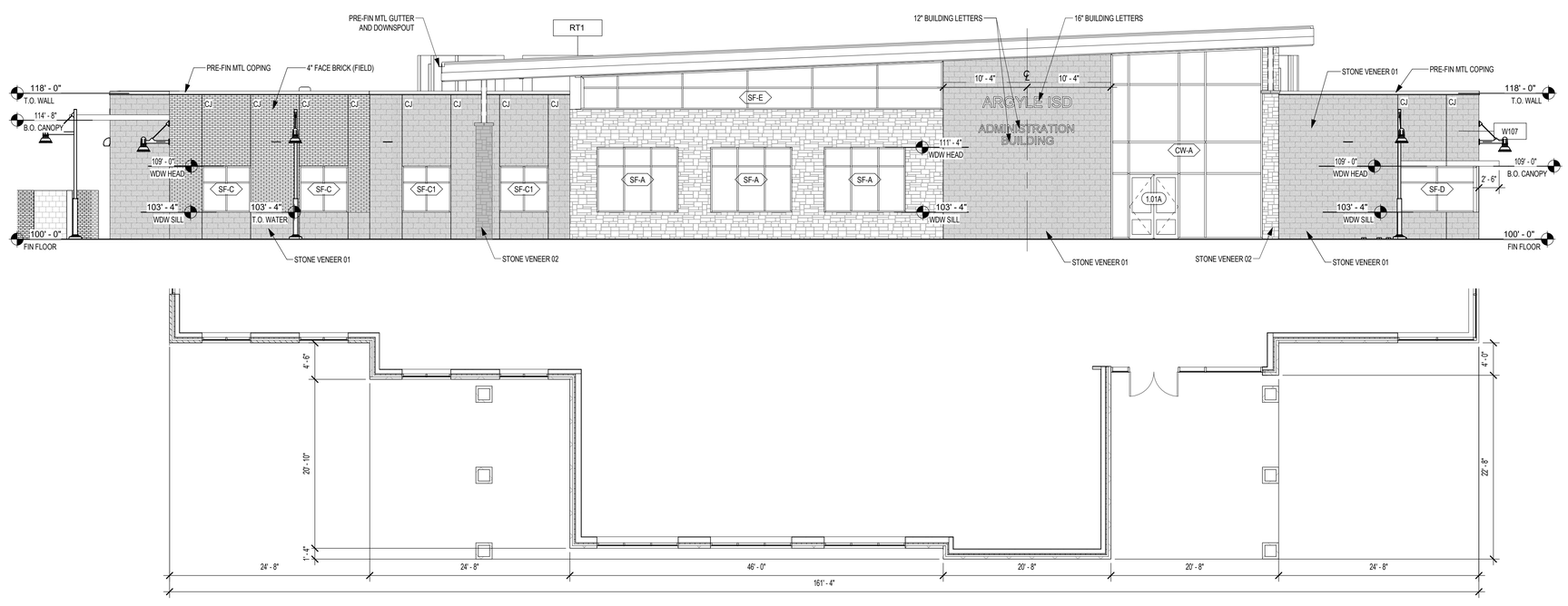
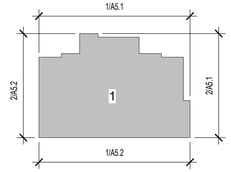


2 EXTERIOR ELEVATION - EAST -
1/8" = 1'-0"



1 EXTERIOR ELEVATION - NORTH -
1/8" = 1'-0"



KEY PLAN - FIRST FLOOR
N.T.S.

BRICK VENEER - TAN CLAY MASONRY UNIT

METAL PANEL - CHARCOAL GRAY FORMED PROFILE METAL PANEL

STONE VENEER 01 - CREAM NATURAL STONE ASHLAR

STONE VENEER 02 - VARIED BROWN NATURAL STONE DRY STACK

MATERIAL LEGEND

NOTES APPLY TO ROOMS AS NOTED IN THE ROOM FINISH TAGS. SEE TAG LAYOUT ABOVE.

1. ANY EXTERNAL ELECTRICAL PANELS SHALL BE PAINTED/TEXTURED TO MATCH THE MATERIAL AND COLOR OF THE BUILDING.

COMMENTS

	NORTH	SOUTH	EAST	WEST
1. TOTAL FACADE S.F.	3647 S.F.	3647 S.F.	2527 S.F.	2527 S.F.
2. FACADE S.F. (EXCLUSIIVE OF DOORS & WINDOWS)	2543 S.F.	3181 S.F.	2268 S.F.	2126 S.F.
3. DOORS & WINDOWS S.F.	1104 S.F.	466 S.F.	259 S.F.	401 S.F.
4. PRIMARY MASONRY TOTALS (MIN. 80%)	2294 S.F. 90% OF 2	2617 S.F. 82% OF 2	2141 S.F. 94% OF 2	1980 S.F. 93% OF 2
BRICK S.F.	299 S.F. 12% OF 2	1791 S.F. 56% OF 2	585 S.F. 26% OF 2	532 S.F. 25% OF 2
STONE S.F.	1995 S.F. 78% OF 2	826 S.F. 26% OF 2	1556 S.F. 69% OF 2	1448 S.F. 68% OF 2
5. SECONDARY MASONRY TOTALS	0 S.F. 0% OF 2	0 S.F. 0% OF 2	0 S.F. 0% OF 2	0 S.F. 0% OF 2
6. NON-MASONRY FINISH TOTALS	249 S.F. 10% OF 2	564 S.F. 18% OF 2	127 S.F. 6% OF 2	146 S.F. 7% OF 2
METAL PANEL S.F.	249 S.F. 10% OF 2	564 S.F. 18% OF 2	127 S.F. 6% OF 2	146 S.F. 7% OF 2

FACADE FINISHES TABLE

Date / Revision /

Project:

A NEW ADMINISTRATION BUILDING
FOR
ARGYLE I.S.D.
FLOWER MOUND, TEXAS

FOR THE PURPOSES OF PERMITTING

REGISTERED ARCHITECT JOSHUA COGBURN 28403 STATE OF TEXAS

11.18.2020

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P&Z - EXTERIOR ELEVATIONS

VOLUME

Job. No. 01861-01-01	Sheet No. BID & PERMIT A5.1
Drawn By: cm	
Date: 07.09.2020	

C:\Users\cmason\Documents\Argyle ISD New Admin - V19_cameron.mason.huckabee.rvt

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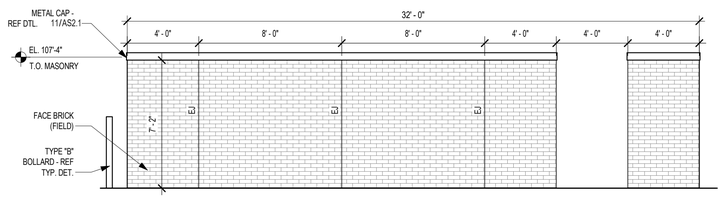
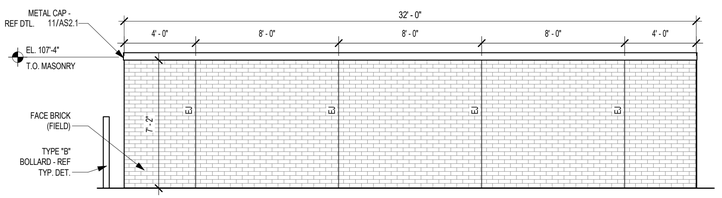
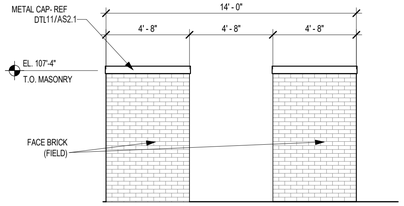


6 DUMPSTER ENCLOSURE ELEVATION
1/4" = 1'-0"



5 DUMPSTER ENCLOSURE ELEVATION
1/4" = 1'-0"



4 DUMPSTER ENCLOSURE ELEVATION
1/4" = 1'-0"

BRICK VENEER - TAN CLAY MASONRY UNIT

METAL PANEL - CHARCOAL GRAY FORMED PROFILE METAL PANEL

STONE VENEER 01 - CREAM NATURAL STONE ASHLAR

STONE VENEER 02 - VARIED BROWN NATURAL STONE DRY STACK

MATERIAL LEGEND

NOTES APPLY TO ROOMS AS NOTED IN THE ROOM FINISH TAGS. SEE TAG LAYOUT ABOVE.

1. ANY EXTERNAL ELECTRICAL PANELS SHALL BE PAINTED/TEXTURED TO MATCH THE MATERIAL AND COLOR OF THE BUILDING.

COMMENTS

	NORTH	SOUTH	EAST	WEST
1. TOTAL FACADE S.F.	3647 S.F.	3647 S.F.	2527 S.F.	2527 S.F.
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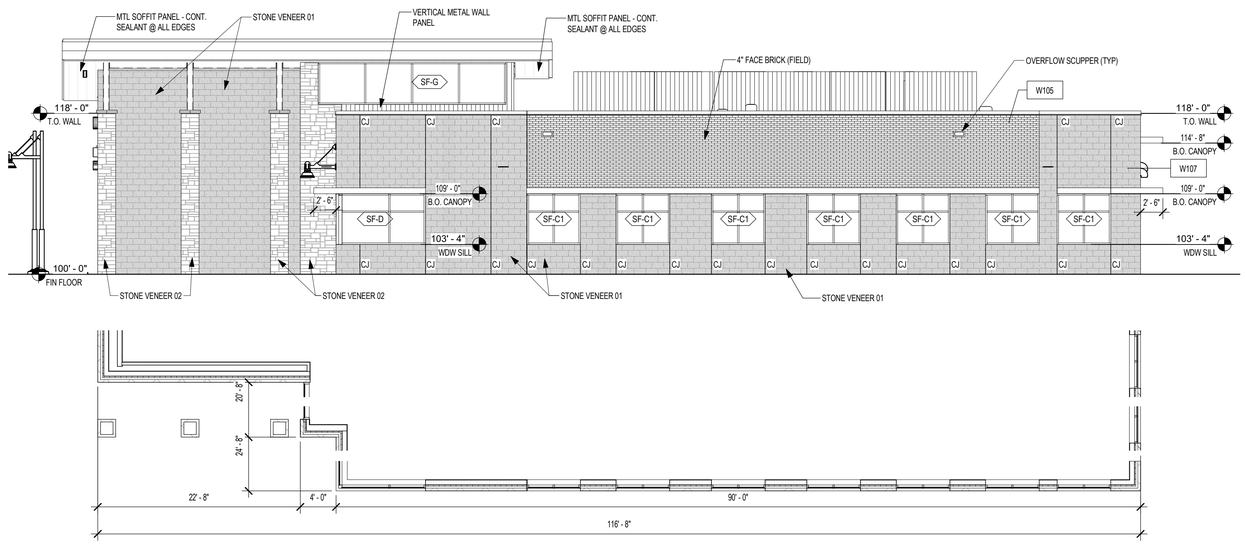
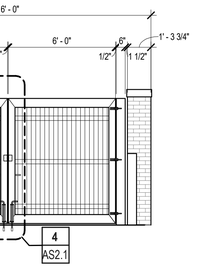
6. NON-MASONRY FINISH TOTALS	249 S.F. 10% OF 2	564 S.F. 18% OF 2	127 S.F. 6% OF 2	146 S.F. 7% OF 2
METAL PANEL S.F.	249 S.F. 10% OF 2	564 S.F. 18% OF 2	127 S.F. 6% OF 2	146 S.F. 7% OF 2

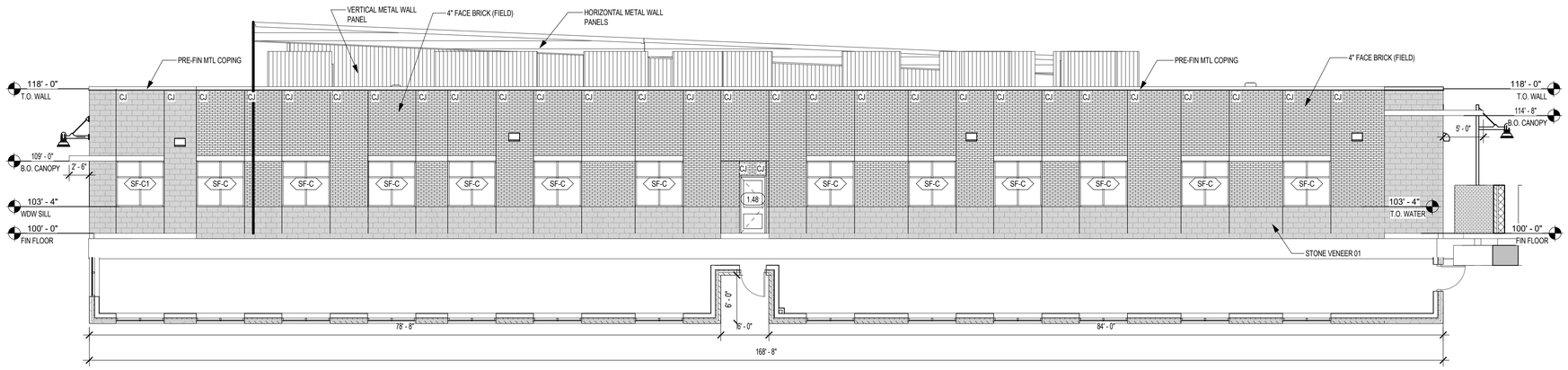
FACADE FINISHES TABLE



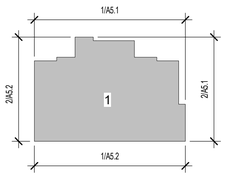
3 EXTERIOR ELEVATION - WEST -
1/8" = 1'-0"



2 DUMPSTER GATE ELEVATION
1/4" = 1'-0"



1 EXTERIOR ELEVATION - SOUTH -
1/8" = 1'-0"



KEY PLAN - FIRST FLOOR
N.T.S.

Project:
A NEW ADMINISTRATION BUILDING
FOR
ARGYLE I.S.D.
FLOWER MOUND, TEXAS

Revision / Date

FOR THE PURPOSES OF PERMITTING

REGISTERED ARCHITECT JOSHUA CODRINGTON 28493 STATE OF TEXAS

11.18.2020

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P&Z - EXTERIOR ELEVATIONS

VOLUME

Job. No. 01861-01-01	Sheet No. BID & PERMIT A5.2
Drawn By: Author	
Date: 07.09.2020	

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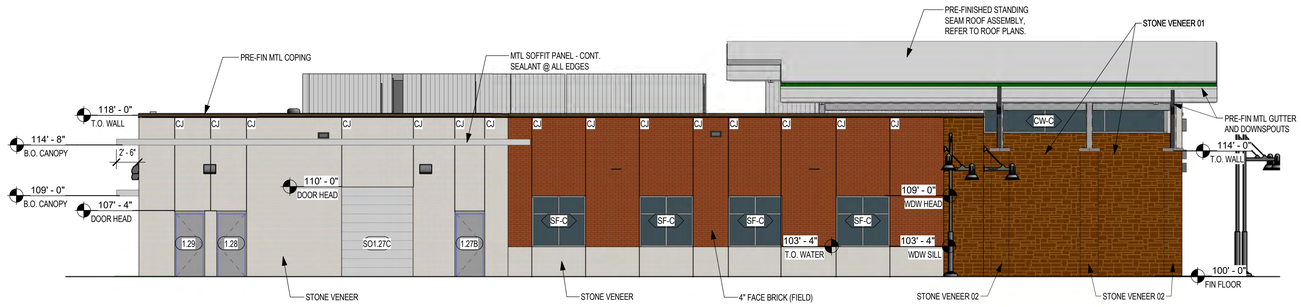
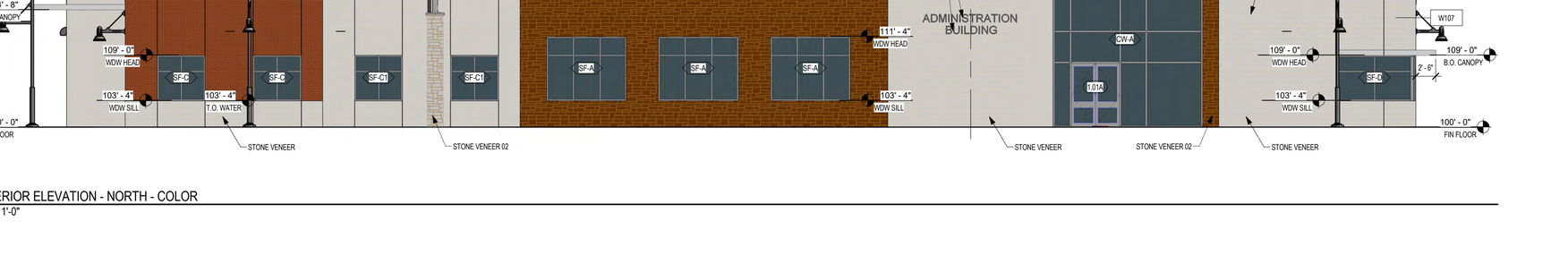
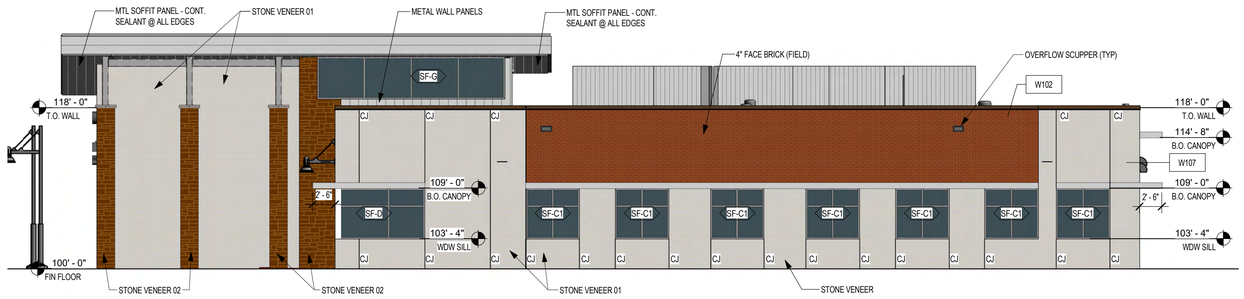


4 EXTERIOR ELEVATION - EAST COLOR
1/8" = 1'-0"



3 EXTERIOR ELEVATION - SOUTH COLOR
1/8" = 1'-0"



2 EXTERIOR ELEVATION - WEST - COLOR
1/8" = 1'-0"

1 EXTERIOR ELEVATION - NORTH - COLOR
1/8" = 1'-0"

THIS DRAWING IS NOT TO SCALE AND IS PROVIDED FOR REFERENCE PURPOSES ONLY. DRAWING IS NOT INTENDED FOR REGULATORY APPROVAL, PERMITTING, OR CONSTRUCTION. REFER TO FLOOR PLANS AND DETAILS FOR SPECIFIC PROJECT INFORMATION.

3D VIEW DISCLAIMER

Revision /	Date

Project:

A NEW ADMINISTRATION BUILDING
FOR
ARGYLE I.S.D.
FLOWER MOUND, TEXAS

FOR THE PURPOSES OF PERMITTING

06/24/2020

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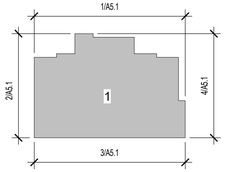
P&Z - EXTERIOR ELEVATIONS

VOLUME



KEY PLAN - FIRST FLOOR
N.T.S.

Job. No.	Sheet No.
01861-01-01	QC
Drawn By: cm	A5.1
Date: 06.23.2020	

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TOWN COUNCIL AGENDA ITEM NO. 19

BOARDS/COMMISSIONS

DATE: January 4, 2021

FROM: Theresa Scott, Town Secretary

ITEM: **Discuss and consider appointment of Chair to the Tax Increment Reinvestment Zone Number 1 (TIRZ #1).**

BACKGROUND INFORMATION: The structure and organization of the Tax Increment Reinvestment Zone Number 1 (TIRZ #1) board members is described by Town Ordinance and Chapter 311 of the Tax Code, which requires the Town Council to designate a voting member of the board to serve as chair for a period of one year beginning January 1. The board shall elect from its members a vice chair and other officers as it sees fit.

The current voting members of the board that may be considered for the position of chair are:

Bill Collins
Jim Engel
David Johnson
Larry Lipscomb
Paul Stone (currently serving as Chair)

Ex officio non-voting members of the board include the Mayor and Town Manager.

ALTERNATIVES/OPTIONS: N/A

FISCAL IMPACT: N/A

LEGAL REVIEW: N/A

ATTACHMENTS: N/A

DRAFT MOTION: Move to designate _____ as Chair of the Tax Increment Reinvestment Zone Number 1 effective immediately and through December 31, 2021.

TOWN COUNCIL AGENDA ITEM NO. 20

BOARDS/COMMISSIONS

DATE: January 4, 2021

FROM: Theresa Scott, Town Secretary

ITEM: **Consider approval of a resolution expanding the Veterans Liaison position, including member appointments.**

BACKGROUND INFORMATION: On September 17, 2020, there was a future agenda item request to have a discussion regarding expanding the Veterans Liaison position to a committee, and with additional responsibilities. On September 21, 2020, there was Council consensus to formulate a task force comprised of Doug Brown (current Veterans Liaison) and his military contacts, as well as those individuals that applied to serve as the Veterans Liaison, to come up with ideas, and present their recommendations to Council later.

On November 16, 2020, Doug Brown (Veterans Liaison) reported to Council that he and Colonel Simonson visited with the individuals that indicated interest in serving as Veterans Liaison and decided they are all deserving to serve on the Board. Their names are included in the attached Resolution.

Mr. Brown also indicated that the current Board responsibilities are broad enough to allow the Board to expand their efforts and outreach as warranted.

ALTERNATIVES/OPTIONS: N/A

FISCAL IMPACT: N/A

LEGAL REVIEW: N/A

ATTACHMENTS: Draft resolution

DRAFT MOTION: Move to approve as presented in the agenda caption.

TOWN OF FLOWER MOUND, TEXAS

RESOLUTION NO. ___ 20

A RESOLUTION TO EXPAND THE VETERANS LIAISON POSITION TO A BOARD FOR THE TOWN OF FLOWER MOUND, AND DEFINE THE TERMS AND DUTIES OF THE POSITION; AND DECLARING AN EFFECTIVE DATE.

WHEREAS, the Town Council of the Town of Flower Mound wishes to expand the Veterans Liaison position to a Board to enhance the Town's current programs and services that honor our community's men and women who served, or are currently serving in the U.S. Armed Forces; and

WHEREAS, the purpose of the Board is to have representatives from the Veteran community serve in an advisory and participative role on matters pertaining to Veterans affairs; and

NOW, THEREFORE, BE IT RESOLVED BY THE TOWN COUNCIL OF THE TOWN OF FLOWER MOUND, TEXAS:

SECTION 1

The Veteran Liaison Board shall be Flower Mound residents and qualified voters of the Town at the time of his/her appointment, be currently serving in the military or hold a Veteran status. A member who ceases to reside in the Town during his/her term of office shall immediately forfeit his/her office.

- Other qualifications for membership shall be a genuine interest in Veterans affairs, the ability to work with the public, Town staff, Town boards, and have the time to devote to this service.
- The Veteran Liaison Board shall consist of six (6) members appointed by a majority vote of the Town Council in accordance with established procedures.
- Members shall be designated as place numbers one through six.
- The terms of office for members shall be for two years. Places one, three, and five shall be appointed to two-year terms ending on September 30 in odd numbered years. Places two, four, and six shall be appointed to two-year terms ending on September 30 in even numbered years.
- Members of the Board serve at the pleasure of the Town Council and may be removed before their terms of office expire.
- The Veterans Liaison Board shall serve without compensation.

Officers and Procedures

- At the first scheduled Board meeting in October of each year, or as soon thereafter as practicable, the first item of business shall be the selection of the Board's chairperson and vice-chairperson from among the membership of the Board.
- The chair shall preside over the meetings and serve as the liaison to Council in reporting or announcing information regarding Veterans activities. In the absence of the chair, the vice-chair shall assume the duties of the chair. Chair and vice chair members shall have the right to vote.
- In the absence of both the chair and vice chair, any member of the Board may be selected as acting chairperson for a particular meeting by majority vote of the members present.

Veterans Liaison Board Responsibilities

- Serve as an information resource on the Town's Veterans portal website.
- Work with various boards/commissions, Town staff, the public and other organizations, to serve in both an advisory and participative role in coordinating Veterans events, activities, and announcements.
- Help to maintain a positive relationship between the Town and Denton County Veterans and other area Veteran support organizations.
- The Veterans Liaison Board may have other responsibilities as authorized or assigned by the Town Council.

The following individuals are appointed to serve as the Town's Veterans Liaison Board:

1. Doug Brown, Place 1
2. Derek France, Place 2
3. Ben Norris, Place 3
4. Paul Perez, Place 4
5. Francisco Vega, Place 5
6. Linda Wright, Place 6

with a term expiration date of 9/30/21 for Places 1, 3, and 5; and a term expiration date of 9/30/22 for Places 2, 4, and 6.

SECTION 4

This resolution shall become effective on and after its date of adoption.

DULY PASSED AND APPROVED BY THE TOWN COUNCIL OF THE TOWN OF FLOWER MOUND, TEXAS, ON THIS THE 4TH DAY OF JANUARY, 2021.

APPROVED:

_____

Steve Dixon, MAYOR

ATTEST:

_____

Theresa Scott, TOWN SECRETARY

TOWN COUNCIL AGENDA ITEM NO. 21

BOARDS/COMMISSIONS

DATE: January 4, 2021

FROM: Theresa Scott, Town Secretary

ITEM: **Consider approval of a resolution to create the School Liaison Committee, including member appointments.**

BACKGROUND INFORMATION: On September 17, 2020, there was a Future Agenda item request to have a discussion regarding expanding the LISD Liaison position to include additional members that would serve as liaisons for the other school districts within the Town.

On September 21, 2020, there was Council consensus to formulate a task force comprised of individuals that applied for the LISD Liaison position, to come up with ideas and present their recommendations to Council later.

The LISD Task Force met 10/20, 11/10, & 12/15 and with the Council charge of reviewing the LISD Liaison position structure, as well as duties and responsibilities. The attached draft resolution represents their input in those areas, including a name change from LISD Liaison to School Liaison Committee. The recommendation of “Committee” instead of “Board” was decided to avoid any confusion between the school board and this group.

Task Force members included:

First Name	Last Name
Manjushree	Mukkala
Ryan	Collinsworth
Ashley	Adebogun
Brandi	Billings
Joanna	Dreiling, Chair

Three of the members expressed interest in serving on this committee and their names are included in the resolution for Council consideration.

ALTERNATIVES/OPTIONS: N/A

FISCAL IMPACT: N/A

LEGAL REVIEW: Ben Gibbs, Taylor, Olson, Adkins, Sralla, & Elam L.L.P., has reviewed the resolution as to form and legality.

ATTACHMENTS: Draft resolution

DRAFT MOTION: Move to approve as presented in the agenda caption.

TOWN OF FLOWER MOUND, TEXAS

RESOLUTION NO._____

A RESOLUTION ESTABLISHING THE SCHOOL LIAISON COMMITTEE OF THE TOWN OF FLOWER MOUND; DEFINING THE DUTIES OF THE COMMITTEE; PROVIDING FOR THE APPOINTMENT OF MEMBERS TO THE COMMITTEE; ESTABLISHING THE TERM OF OFFICE FOR EACH COMMITTEE MEMBER; AND PROVIDING AN EFFECTIVE DATE.

WHEREAS, the Town Council of the Town of Flower Mound wishes to create a School Liaison Committee to enhance the Town's current relationships with local educational institutions that serve the students and residents of Flower Mound; and

WHEREAS, the purpose of this committee is to have representatives serve in an advisory and participative role on matters involving education that impact the citizens of Flower Mound; and

WHEREAS, each School Liaison Committee member will be appointed by the majority vote of the Town Council.

NOW, THERE, BE IT RESOLVED BY THE TOWN COUNCIL OF THE TOWN OF FLOWER MOUND, TEXAS:

SECTION 1

Each School Liaison Committee member must be a Flower Mound resident and qualified voter of the Town at the time of their appointment. Members who cease to reside in the Town during their terms of office shall immediately forfeit their office.

- Other qualifications for membership shall include a sincere interest in Education, the ability to work with the public, Town Staff, Town Boards, and having the time to devote to this service.

- The School Liaison Committee will consist of three (3) members: one representative of a local public school district (Lewisville ISD, Denton ISD, Argyle ISD, Northwest ISD, and Grapevine-Colleyville ISD), one representative of a local private and charter K-12 institutions, and one representative of an institution of higher education, as that term is defined in Section 61.003 of the Texas Education Code, as it may be amended.

- The term of office for each School Liaison Committee member shall be two years and members shall be designated as places one through three. Places one and three shall be appointed to two-year terms ending on September 30 in odd numbered years. Place two shall be appointed to a two-year term ending on September 30 in even numbered years.

- The School Liaison Committee shall meet quarterly prior to the Town Council meeting to discuss upcoming activities associated with the local educational organizations identified above.

- The School Liaison Committee will report to the Town Council on educational activities of interest to the community on a quarterly basis, and as necessary.

- The School Liaison Committee serves at the will and pleasure of the Town Council and members may be removed at any time prior to the end their term.

- The School Liaison Committee members shall serve without compensation.

SECTION 2

School Liaison Committee Responsibilities

- Create and maintain an education information resource on the Town's website.

- Work with various boards/commissions, Town Staff, the public and other organizations, to serve in both advisory and participative roles as it relates to coordinating activities and announcements.

- Help to foster a working relationship between the Town and schools.

- The School Liaison Committee may have other responsibilities as authorized or assigned by the Town Council.

SECTION 3

The following individuals are appointed to serve on the Town's School Liaison Committee:

Ashley Adebogun, Place 1
Ryan Collinsworth, Place 2
Mukkala Manjushree, Place 3

with Place 1 and 3 having a term expiration date of 9/30/21 and Place 2 a term expiration date of 9/30/22.

SECTION 4

This Resolution shall become effective on and after its date of adoption.

DULY PASSED AND APPROVED BY THE TOWN COUNCIL OF THE TOWN OF FLOWER MOUND, TEXAS, ON THIS 4TH DAY OF JANUARY, 2021.

APPROVED:

_____

Steve Dixon, MAYOR

ATTEST:

_____

Theresa Scott, TOWN SECRETARY

Town Council Future Agenda Items

SCHEDULED	**2/1/2021**	Consent	Water System Annual PureTec Contract
		Consent	Rheudasil Park - Construction Award
		Consent	Bruton-Orand @ FM 1171 Right Turn Lane - Construction Award
		Consent	Wastewater Flow Meters - I&I Purchase
		Consent	Placeholder: Call May 1, 2021, Election
		Consent	Morriss Road Water Line Phase II (Milford to Eaton) Testing
		Consent	Morriss Road Water Line Phase III (Eaton to Waketon)
		Consent	FM 2499 @ FM 3040 Intersection Improvements - Design Award
		Consent	Power Engineering - ring - Utility Asset Management
		Consent	Consider approval of the minutes from a regular meeting of the Town Council, and Town of Flower Mound Crime Control and Prevention District Special meeting on January 4, 2021.
		Consent	Concrete Services Annual Contract
		Regular	Public Hearing to consider approval of a Chapter 380 Agreement with Communications Test Design, Inc. for the economic development of Flower Mound, and authorization for the Mayor to execute same on behalf of Town.
	2/15/2021	Consent	Placeholder: Ordinance updating Records Mgmt Program and Disaster Prevention & Recovery Plan for Town Records
		Consent	2020-21 CIP Amendment 2
		Consent	Bruton-Orand @ FM 1171 Right Turn Lane - Testing Award
		Consent	Rheudasil Park - Testing Award
	3/1/2021	Regular	Consider approval of an ordinance amending the Town of Flower Mound's Annual Budget for the fiscal year beginning October 1, 2020, and ending on September 30, 2021, as adopted by Ordinance No. xx-xx for adjustments to the General Fund

SCHEDULED	**4/5/2021**	Consent	Consider approval of an ordinance to reappoint Alternate Municipal Judge Stephanie Askew for the period of April 17, 2021, through April 16, 2023.